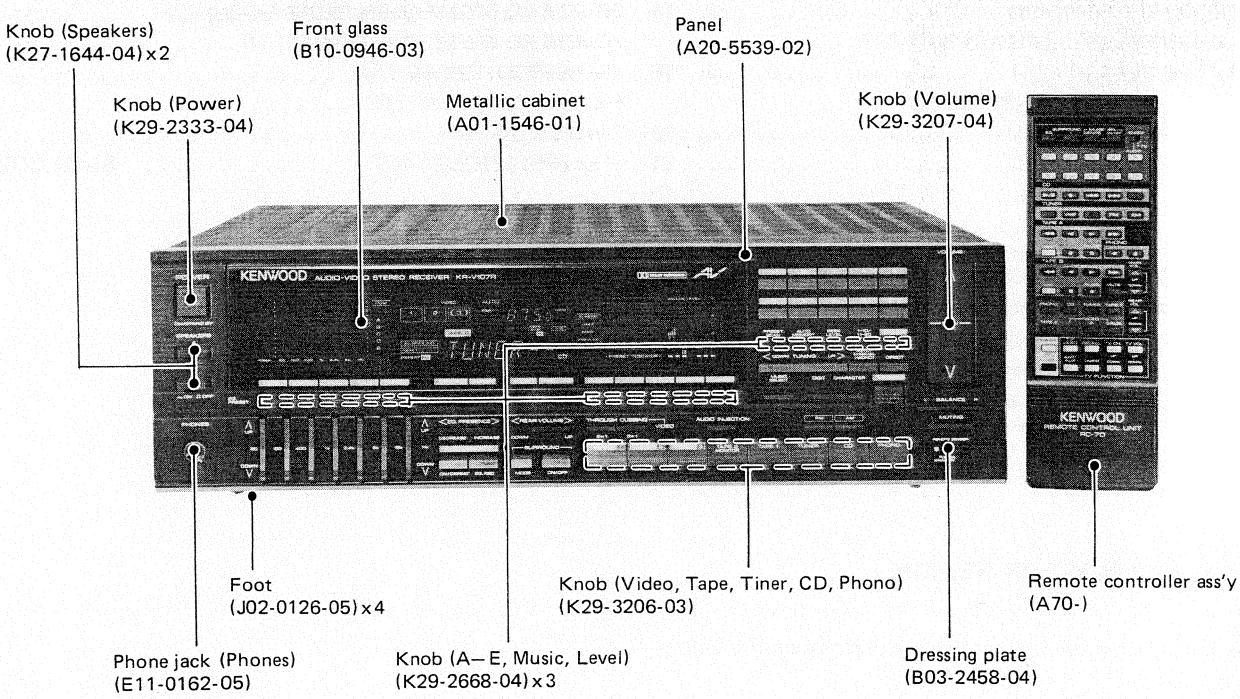
AUDIO-VIDEO STEREO RECEIVER

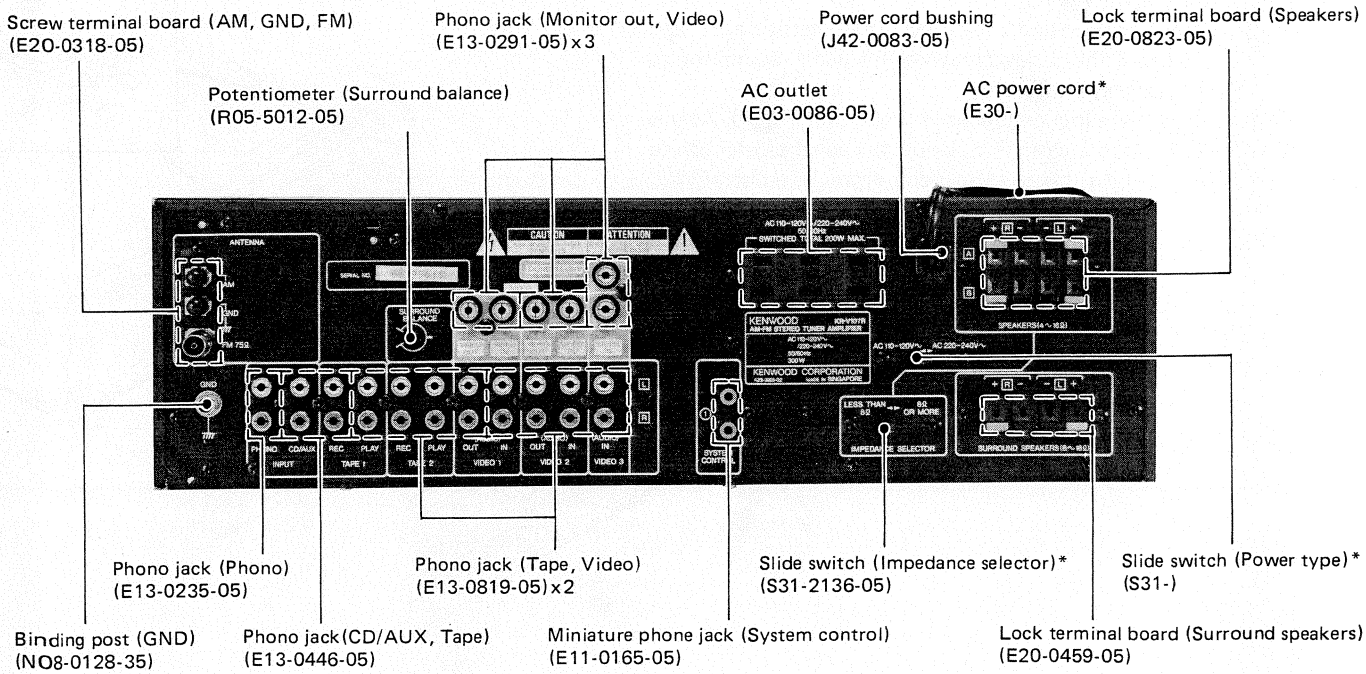
KR-V107R

SERVICE MANUAL

KENWOOD

B51-3571-00 (O) 1648





* Refer to parts list on page 49.

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CONTENTS/DISASSEMBLY FOR REPAIR

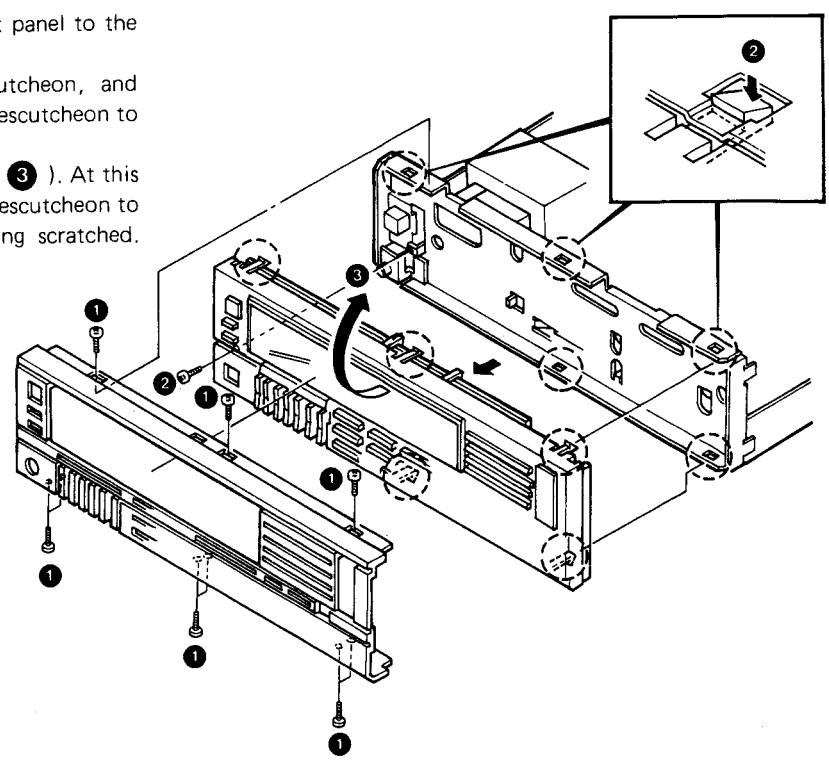
WARNING

Lithium battery. Danger of Explosion if handled careless. May be replaced by trained personnel only according to the service manual.

DISASSEMBLY FOR REPAIR

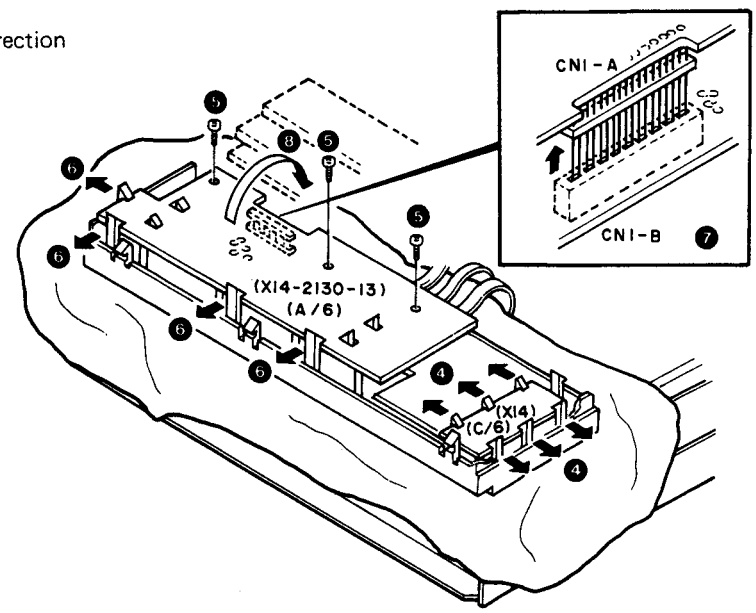
(Remove the metallic cabinet before performing the following operations.)

1. Remove the 9 screws retaining the front panel to the sub panel (❶).
2. Remove the screw on the panel escutcheon, and disengage the 5 claws retaining the panel escutcheon to the sub panel (❷).
3. Place the panel escutcheon on the unit (❸). At this time, place a cloth, etc., below the panel escutcheon to protect the panel escutcheon from being scratched.

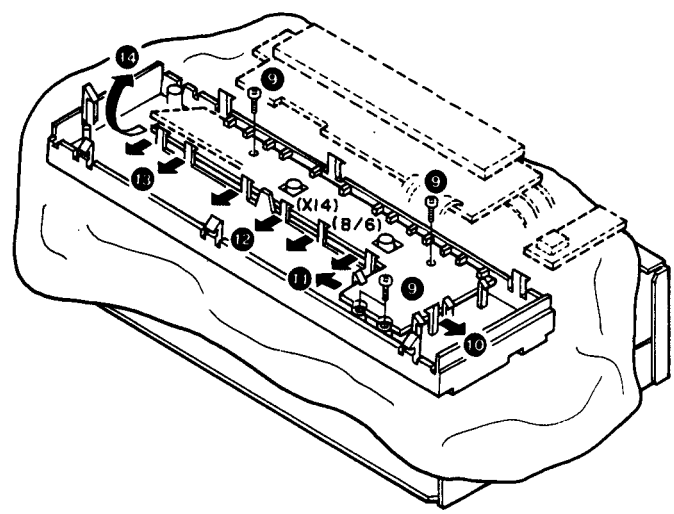


DISASSEMBLY FOR REPAIR

4. Disengage the 6 claws retaining the Display Unit (X14-2130-13) (C/6) to the panel escutcheon (❹).
5. Remove the 3 screws retaining the Display Unit (X14-) (A/6) to the panel escutcheon (❺).
6. Disengage the 4 claws retaining the Display Unit (X14-) (A/6) to the panel escutcheon (❻).
7. Disconnect the connector (CN1-A,B) which have been connected to the Display Unit (X14-) (A/6) and (X14-) (B/6) (❼).
8. Place the Display Unit (X14-) (A/6) in the direction of the arrow (❽).

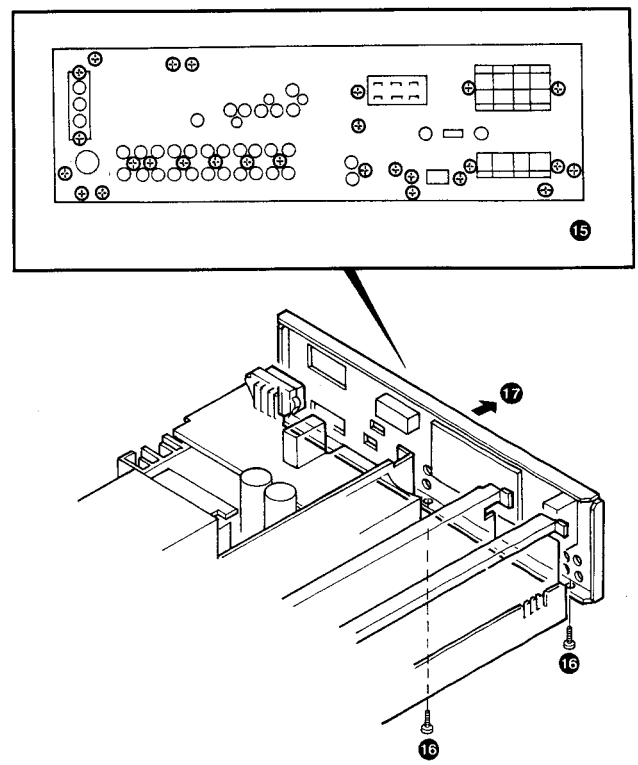


9. Remove the 4 screws retaining the Display Unit (X14-) (B/6) to the panel escutcheon (❾).
10. Disengage the 8 claws retaining the Display Unit (X14-) (B/6) to the panel escutcheon. To facilitate this procedure, disengare the claws from right (❿) to left (⓭).
11. Remove the Display Unit (X14-) (B/6) in the direction of the arrow (⓮).

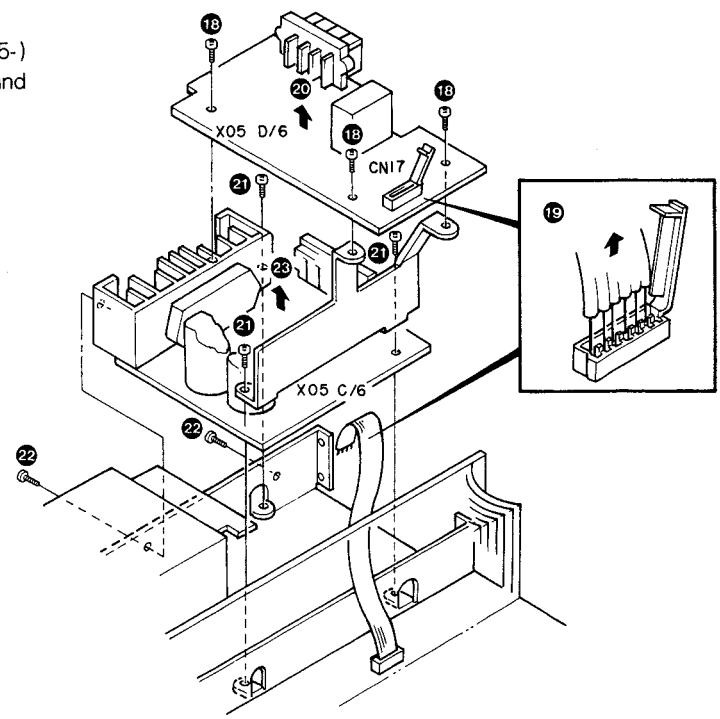


DISASSEMBLY FOR REPAIR

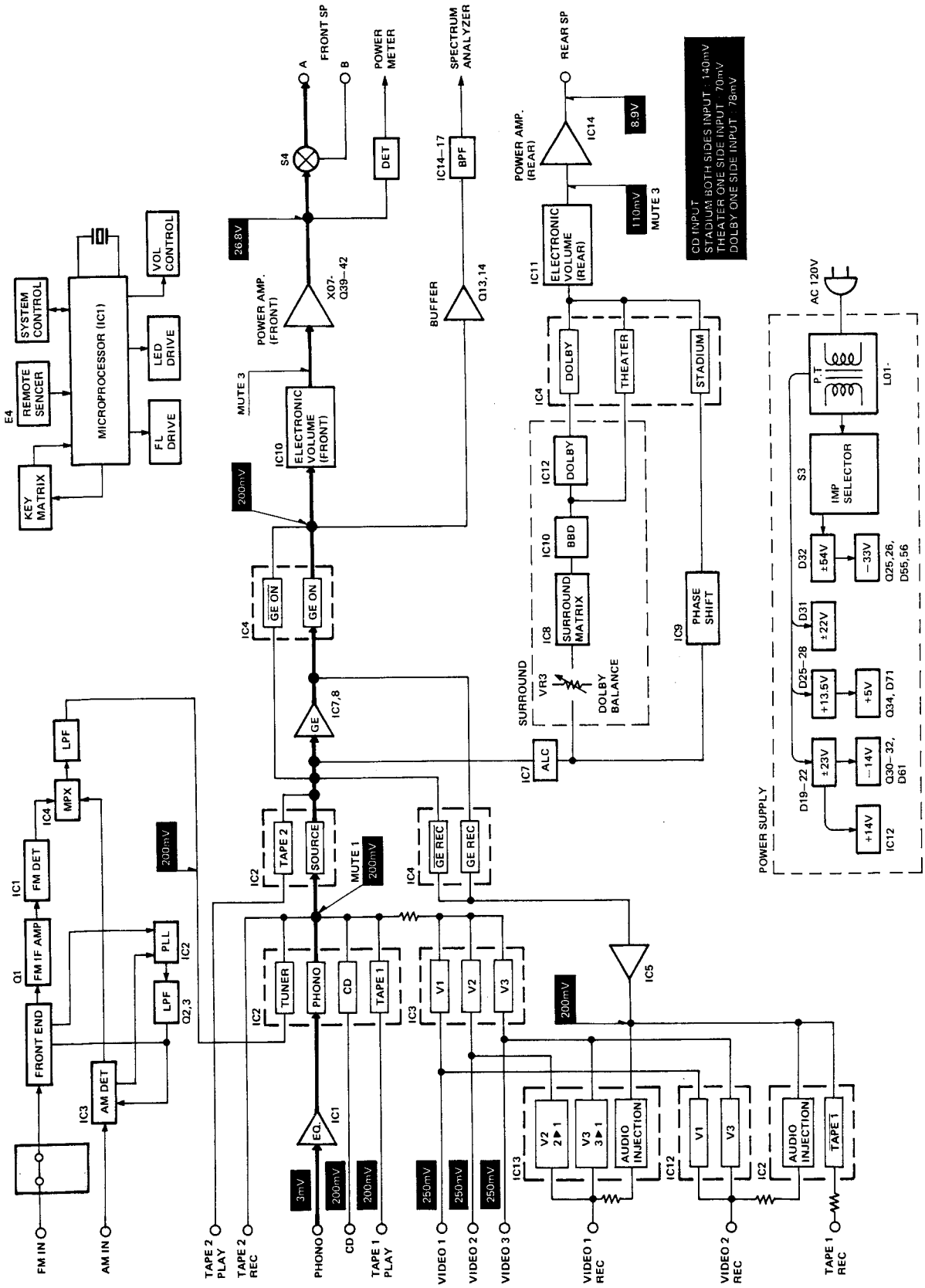
12. Remove 27 screws (⑮) from the rear panel and 2 screws (⑯) from the bottom plate and remove the rear panel in the direction of arrow (⑰).



13. Remove 3 screws (⑱), disconnect CN17 (⑲) from the PC board (X05-) (D/6) and remove the PC board (⑳).
14. Remove 3 screws (㉑) from the PC board (X05-) (C/6) and 2 screws (㉒) from the side panel and remove the PC board (㉓).



BLOCK LEVEL DIAGRAM



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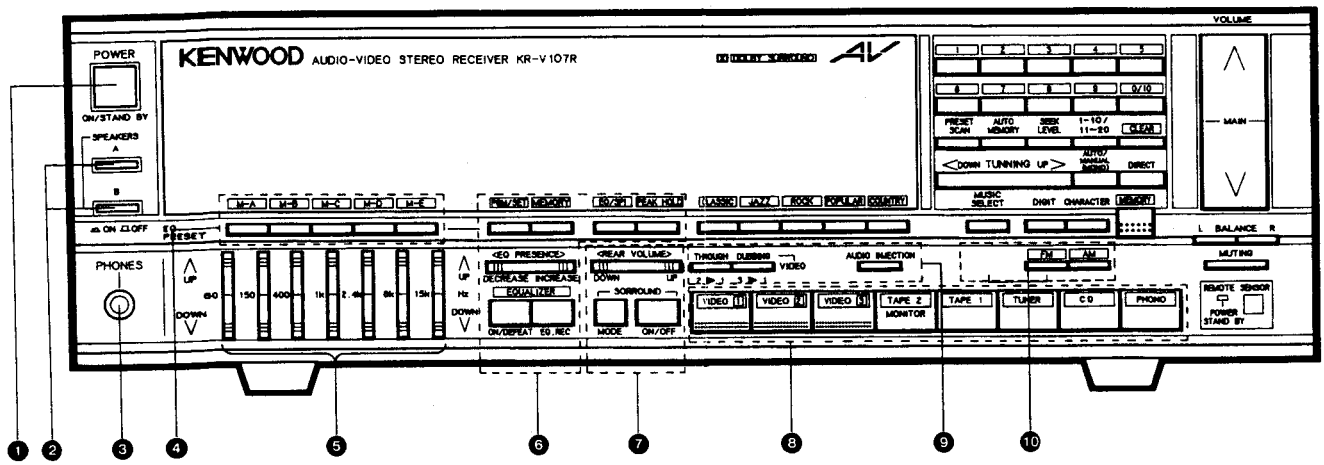
CONTROLS AND INDICATORS



❶ POWER switch
Press this switch to turn on power. (The POWER STAND BY indicator lights.) Press it again to turn power off.

❷ SPEAKERS A and B switches
A,B OFF – This position silences all speakers to permit private use of headphones.
A ON – Activates speakers connected to the SPEAKERS A terminals on the rear panel.
B ON – Activates speakers connected to the SPEAKERS B terminals on the rear panel.
A,B ON – Activates speakers connected to the SPEAKERS A and B terminals simultaneously.

Note:
When the SPEAKERS A and B switches are used at the same time, the speakers connected to the SPEAKERS A and B terminals are connected in series. In this respect, whenever using the SPEAKERS A and B switches at the same time, be sure that two pairs of speakers are connected to the terminals A and B, otherwise no sound is output.

❸ PHONES jack
Stereo headphones are plugged into this jack.

❹ EQ (Equalizer) PRESET keys
Use these keys to store equalizer curves in memory or to recall them.
PGM: User-adjusted equalizer curves can be programmed as desired and stored in memory; up to five patterns.
SET: Five factory-preset equalizer curves are stored in memory.
Up to 10 equalizer curve memories are available in total. Press the PGM/SET key to select either the user-programmed pattern or the factory-preset pattern.

❺ Equalizer level controls
Adjust these controls up and down to equalize the sound by ±12 dB to the center frequency indicated.

❻ Equalizer function keys

● EQUALIZER key
Press this key to ON and the frequency characteristic will be modified by passing through the graphic equalizer. In the DEFEAT position, the frequency characteristic remains unchanged.

● EQ REC key
Used when recording the source onto the tape deck through the equalized response of the graphic equalizer.

● EQ PRESENCE controls
Adjust these controls (INCREASE and DECREASE) to boost or attenuate the equalizer curve indicated.

● PEAK HOLD ON/OFF key
In the spectrum analyzer display (SPI) mode, pressing this key activate or deactivate the Peak Hold function of the power meter indicator.

● EQ/SPI key
Pressing this key alternates the display mode between the EQ (graphic equalizer) and SPI (spectram peak indicator-spectrum analyzer).

● Equalizer preset MEMORY key
This key is used to store an equalizer curve into the PGM PRESET memories. First, select the desired equalizer curve and then press this key. Then press any of the PRESET (A to E) keys. The selected equalizer curve will be stored in the memory indicated by the PRESET key pressed.

● PGM/SET key
Pressing this key alternates the preset equalizer curves to be recalled between PGM (user-programmed patterns) and SET (factory-preset patterns) groups.

CONTROLS AND INDICATORS

⑦ Surround function keys

● SURROUND MODE switch
Select the desired surround mode with this switch when the SURROUND ON/OFF switch is set to ON. Each time this switch is pressed, DOLBY, THEATER or STADIUM surround mode is selected in turn cyclical.
This becomes the recall function when the surround function is not displayed. When this key is pressed with the surround function displayed, the mode is changed.

● SURROUND ON/OFF switch
Press this switch to activate or deactivate the surround output.

● REAR VOLUME controls
Adjusts front/rear balancing when surround speakers are used. The control range is ±20 dB of the front speaker level.

⑧ Input selectors

VIDEO 1 – Selects the video recorders connected to the VIDEO 1 jacks.
VIDEO 2 – Select the video recorders connected to the VIDEO 2 jacks.
VIDEO 3 – Select the video recorders connected to the VIDEO 3 jacks.
TAPE 1 – Press this switch to play back a tape deck connected to TAPE 1 jacks.
TAPE 2 – Press this switch to play back a tape deck connected to the TAPE 2 jacks. (The TAPE-2 switch is operated in priority to any other audio input systems.)
TUNER – Selects the tuner mode.
CD – Selects the source connected to the CD/AUX jacks.
PHONO – Selects the program source played on the turntable.

⑨ Video function keys

● THROUGH DUBBING [3] ▶ [1] key
This activate the through dubbing from VIDEO 3 to VIDEO 1.

● THROUGH DUBBING [2] ▶ [1] key
This activate the through dubbing from VIDEO 2 to VIDEO 1.

Note:
Pressing the THROUGH DUBBING keys twice will resume the previous mode.

● AUDIO INJECTION switch
Press this switch ON when replacing the sound of VIDEO 1, 2 with that of AUDIO source.

⑩ Band selectors

● Band selector switches
FM – For FM broadcasts.
AM – For AM broadcasts.

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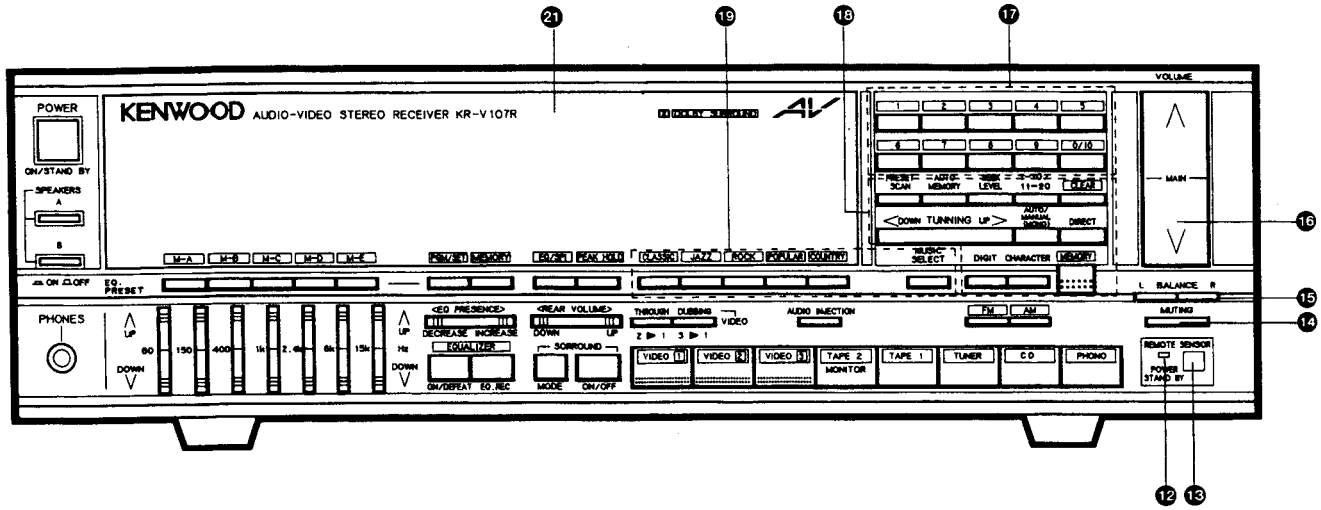
CONTROLS AND INDICATORS



⑫ REMOTE POWER STAND BY indicator
This indicator lights so far as the power cord is plugged into the AC outlet. It is lit to show that the POWER switch on the front panel or the POWER key on the remote control unit can be activated.

⑬ REMOTE SENSOR
Point the supplied remote control unit towards this sensor and operate. It blinks when the signal from the remote control unit is received.

⑭ MUTING key
When the muting key is pressed, the MUTING indicator in the display window will flash, and the overall listening sound level is reduced.
When the key is pressed again, you can restore exactly the same listening level as before.

⑮ BALANCE controls
Governs the amount of sound coming from each paired speakers to get optimum stereo effect. Pressing the RIGHT key will decrease the left channel volume and pressing the LEFT key will decrease the right channel volume. When the BALANCE controls is pressed, display window shows the BALANCE indicator.
The balance of the rear speakers are controlled at the same time.

⑯ VOLUME control key
This control adjusts the left- and right-channel volumes simultaneously. Set it for the desired listening level. Pressing the up (Λ) side increases the volume and pressing the down (V) side decreases it.
The volume level of the rear speakers are controlled at the same time.

Note:
A slight noise is heard from the speakers when operating the VOLUME controls. This noise is the built-in microprocessor control signal and is not a fault.

⑰ Numeric keys (1 ~ 0/10)
Use these keys to:
1) input directly the digits of frequencies, or
2) store and recall frequencies in the preset memory.

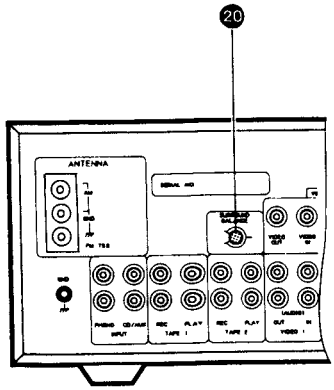
⑱ Tuning function keys

● TUNING key
Used to change the frequency. Pressing the UP (>) side will advance to the higher frequency and pressing the DOWN (<) side to the lower frequency.
In the station name input mode, this key is used to select the character.

● AUTO/MANUAL (MONO) key
When this key is pressed, the AUTO indicator will light. The frequency will automatically stop at a station in automatic tuning mode. When a stereo broadcast is received, the output sound is automatically changed to stereo.

● DIRECT key
Used to tune to the station directly. Input the desired frequency numerics with the numeric keys after pressing the DIRECT key.

CONTROLS AND INDICATORS



Rear panel

● **CLEAR key**
Used to clear the contents stored in the preset channel memory. After recalling the preset channel to be cleared, pressing this key will clear the memorized contents.

● **Preset function (1-10/11-20) key**
Used to select 1-10 or 11-20 setting for the preset channel key. In either FM or AM mode, 20 stations can be preset as random as each setting ("1-10" or "11-20") can contain 10 preset stations. Indicator "1-10" lights when "1-10" setting is used, and indicator "11-20" lights when "11-20" setting is used.

● **SEEK LEVEL select key (During FM reception only)**
Used to select the stop level. When "L" is selected, the Auto Stop and Auto Memory functions are possible even for the weak-signal stations. When "H" is selected, the Auto Stop/Auto Memory functions are performed only for the stations having strong signal. Pressing this key alternates between "L" and "H".

● **AUTO MEMORY key**
When this key is pressed ON, the station frequencies will be scanned and stored into the Preset Channels automatically. Scanning operation is performed from the displayed frequency to the higher range and finished after one cycle is over with the receiving band. During Auto Memory operation, the Memory indicator blinks. To release it, press the AUTO MEMORY key again.

● **PRESET SCAN key**
Use this key for preset channel scanning.
When a frequency stored in the preset memory is being received, pressing this key shifts the reception to the next frequency stored in the preset memory. (The preset channels are scanned in the order 1, 2,..... 11, 12,..... 20,)
To stop a scanning operation, press the SCAN key again.
In MUSIC SELECT mode, a preset scanning operation is performed within the music genre selected.

● **DIGIT select key**
In the station name input mode, pressing this key advances the column after selecting the character with the Tuning UP/DOWN key. When this operation is repeated four time, the station name input mode will be released automatically.

● **CHARACTER mode key**
Press this key to activate the station name input mode.

● **MEMORY key**
When the input mode is tuner mode, use this key to store new broadcast station data in the preset channel memory. By pressing the MEMORY key, setting the preset function key to 1-10 or 11-20 and by pressing one of the PRESET 10 key, the frequency being received is stored in the memory in the preset 10 key pressed.

⑲ **Music selectors**

● **MUSIC SELECT key**
Pressing this key alternates display of the PRESET INDICATOR between the Music Select mode and the Preset indicator mode.

● **MUSIC genre key**
In the Preset indicator mode, a desired music genre can be stored into each Preset Channel memory button. In the Music select mode, this key is also used to select the music genre.

⑳ **SURROUND BALANCE knob (on the rear panel)**
Since the SURROUND BALANCE knob located on the rear panel is set to its center position normally. It is not necessary to adjust it again. However, if the left/right balance is shifted incorrectly, first set the SURROUND mode to the DOLBY position and reproduce the monaural source to adjust so that no sound is heard from the rear speakers.

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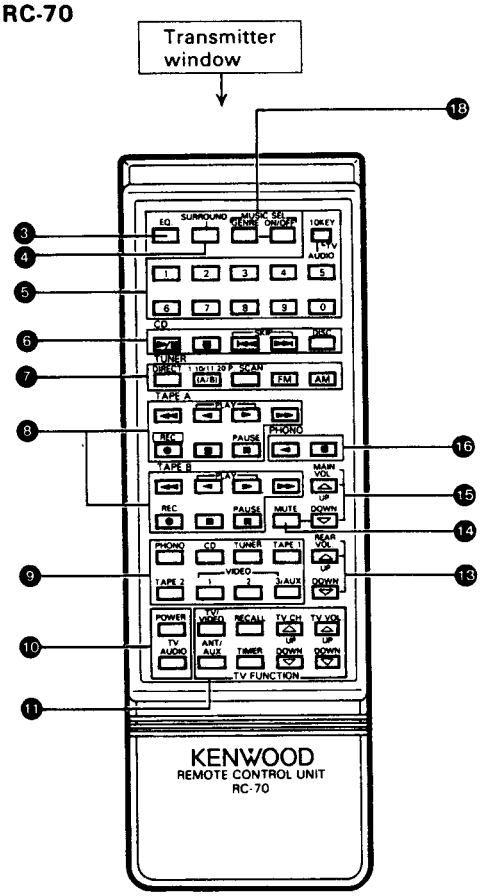
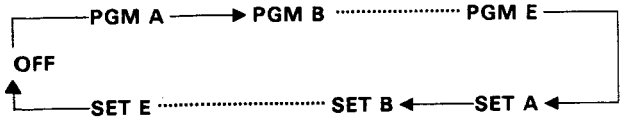
CONTROLS, CONNECTORS AND INDICATORS

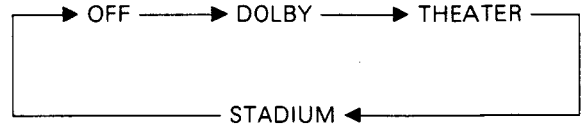
With RC-70



❸ Equalizer preset key (EQ)
The 5 "PGM" presets and the 5 "SET" presets – total of 10 equalizer preset patterns can be recalled sequentially.



❹ SURROUND keys
This key is used to turn the surround system ON, and to select the any desired surround mode from the 3 available modes.



CONTROLS, CONNECTORS AND INDICATORS

❺ 10-KEY mode switch

AUDIO: 10-key direct operation is possible only for tuner and CD player.
(For example: when "7" is pressed while listening to track No.4 of the CD player, the track No. is changed to 7.)

TV: 10-key direct operation is possible only for TV. Use keys "0-9" in combination for direct channel selection regardless of any previous memory settings or functions. Generally, key in channel numbers in two digits for speedy operation. To key in lower channel numbers from 2~9, key in "0", then the channel number. (For example, to tune in channel 9 directly, key in "0", then "9", for channel 23, key in "2", then "3", etc.)

❻ Compact disc player (DP-87/DP-57/DP-47/DP-M107R/DP-M97R/DP-M97) operation keys (CD)

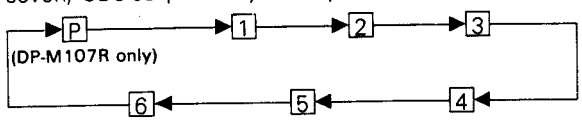
Play/pause key (▶/II)
When this key is pressed with a compact disc loaded in the compact disc player, the disc is played. (Same function as the play key on the compact disc player.)
When this key is pressed during play, the player enters the pause mode. To release pause mode, press it again.

Stop key (■)
Press to cancel all operations. The pickup returns to the beginning of the first tune and the player enters the standby mode. (Same function as the stop key on the compact disc player.)

Music skip key (▶▶I)
Press to skip to the beginning of the next tune. The pickup is advanced to the forward tunes by the number of times it is pressed. (Same function as the music skip key on the compact disc player.)

Music skip key (I◀◀)
Press to return to the beginning of the current tune. Pressing it again returns the pickup to the beginning. When the key is continuously pressed, the pickup returns to the backward tunes by the number of times it is pressed. (Same function as the music skip key on the compact disc player.)

Disc select key (DISK)
When a multiple CD player (DP-M107R, DP-M97R, DP-M97) is connected, this key selects one of six (or seven) CDs sequentially in a cycle.



❼ Tuner operation keys (TUNER)

DIRECT
When this key is pressed, the unit is set to direct mode and the frequency of the desired station can directly be input using 10-key.

1-10/11-20 (A/B)
Each time this button is pressed, the preset station range is changed.

P. SCAN
When this key is pressed, the preset stations are automatically received from 1 for a specified time.

Band select keys (FM/AM)
Select the desired band of broadcast listening.

❽ Cassette deck operation keys (KX-97CW, KX-77CW, KX-67W ..... TAPE A/B) (KX-87CR ..... TAPE B only)

Stop key (■)
Press to stop tape running.

Rewind key (◀◀)
Press to fast-wind the tape to the left reel.

Fast-forward key (▶▶)
Press to fast-wind the tape to the right reel.

Reverse play key (◀)
Press to start playback in reverse direction. (Rear side playback).
When use the KX-77CW, the Reverse Play Key (◀) of the TAPE-A dose not function. When use the KX-67W, the Reverse Play Key (◀) of the TAPE-A and TAPE-B dose not function.

Play key (▶)
Press to start playback in forward direction. (Front side playback).

Pause key (II)
Press to stop play back or recording momentarily.
The function of the PAUSE key.

Record key (REC) (●)
Press to start recording.

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CONTROLS, CONNECTORS AND INDICATORS

⑨ Input selector keys

PHONO: To listen to a source from the turntable connected to the PHONO jacks.

CD: To listen to a source from the CD player connected to the CD jacks, press this switch.

TUNER: To listen to FM, AM or CATV broadcasting.

TAPE-1: To listen to a source from the tape deck connected to the TAPE 1 jacks.

TAPE-2: To listen to a source of the tape deck, etc., connected to the TAPE 2 jacks.

VIDEO 1: To listen to a source from the equipment connected to the VIDEO 1 jacks, .

VIDEO 2: To listen to a source from video cassette recorder connected to the VIDEO 2 jacks.

VIDEO 3/AUX: To listen to a source from video cassette connected to the VIDEO 3 jacks.

⑩ POWER switch

AUDIO: Press to turn the stereo system ON. Press again to turn the stereo system OFF.

TV (KMT-1026, KMT-2026S): Press to turn the TV ON. Press again to turn the TV off.

⑪ TV (KMT-1026, KMT-2026S) operation keys (TV FUNCTION)

Note: With the supplied remote control unit, only KMT-1026, KMT-2026S (monitor TV) can be operated.

TV/VIDEO key

Use this key to select the type of signal that the monitor will receive: TV, VIDEO 1 or VIDEO 2.

RECALL key

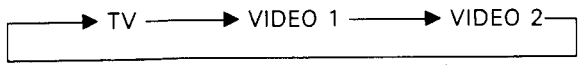
Press the recall key and both the time and channel will be displayed continously. Press it again and they will disappear. The timer function can be utilized as well but the time will not continously be displayed.

Channel tuning UP/DOWN keys (TV CH.) (△/▽)

Press to channel UP (△) key to tune in higher channels, and the channel DOWN (▽) key to tune in lower channels. Press the key continuously until the channel number you wish to receive appears on the upper right side of the screen.

ANT/AUX key

Press this key to set the ANT and AUX idicator to agree with the antenna input source.



TIMER key

Press the timer key to set desired time.

TV VOL. key (△/▽)

Apply steady pressure to the VOLUME UP (△) or DOWN (▽) keys, to increase or decrease the volume as desired.

⑬ Rear volume controls (REAR VOL.)

Adjust front/rear balancing when surround speakers are used. The control range is ±20 dB of the front speaker level.

⑭ Muting key (MUTE)

Press to decrease the volume level instantaneously. Pressing it again resumes the previous volume level. When this key is pressed, volume level is decreased. The MUTING indicator blinks.

⑮ Volume control keys (MAIN VOL. UP △/DOWN ▽)

Controls the volume of the speakers and headphones. Press the UP (△) key to increase the volume level, and press the DOWN (▽) key to decrease it.

Note:

The volume is raised up to the level preset at the control amplifier.

⑯ Turntable (KD-77F, KD-67F, KD-47F) operation keys (PHONO)

Play key (◄)

Press to start record play automatically.

For KD-67F, select the record size when turning the power on.

Stop key (■)

Press to stop play; the tonearm returns to the rest and the platter stops rotating.

⑱ Music select keys (MUSIC SEL.)

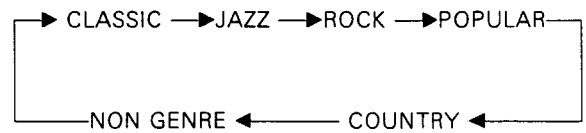
ON/OFF Key

The same function as the MUSIC SELECT Key ⑲ on the main unit front panel.

Music GENRE key

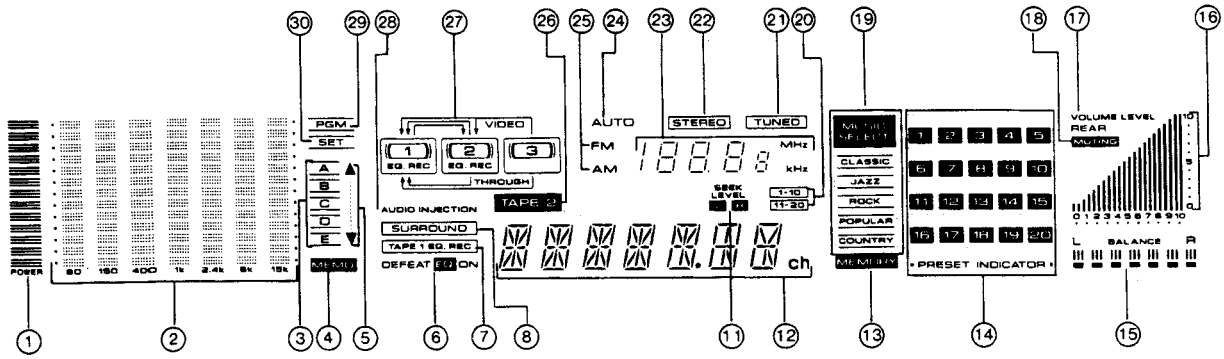
In the MUSIC SEL. mode, a specific music genre can be selected to tune in stations of that genre.

Each time the GENRE key is pressed, the music genre changes in cyclical order.



INDICATORS

Display window



① Display the power level display.
② In graphic equalizer mode, displays the equalizer level display, the music spectrum analyzer display and peak hold display.
③ Displays when storing or recalling equalizer preset channel in memory.
④ This indicator lights when the Memory (EQ) key is pressed to store the desired equalizer curve.
⑤ Equalizer Presence Indicator.
⑥ Lights when the EQUALIZER switch is set to "ON".
Lights when the EQUALIZER switch is set to "DEFEAT".
⑦ This indicator lights when EQ REC (equalizer recording) is engaged for Tape 1.
⑧ Lights when the SURROUND ON/OFF switch is pressed.
⑪ This displays the "L" or "H" seek level in FM mode.
⑫ This displays the input mode, preset channel, station name, front volume level, rear level balance, surround mode, EQ preset channel and music genre.
⑬ Lights when the MEMORY key is pressed.
Blinks when the AUTO MEMORY key is pressed.
⑭ Displays preset music genre selected at music select mode, and all of the preset broadcast station channels which are in the Preset indicator at preset indicator mode.
⑮ Indicates the left and right volume balance.
⑯ Displays the volume level, also displays rear volume level during flashing the REAR indicator.
⑰ Flashes when the REAR LEVEL controls is pressed.
⑱ Flashes when the MUTING key is pressed.
⑲ When the Music Select key and MUSIC GENRE key are pressed, the "MUSIC SELECT" and one of the music genre indicators light.
⑳ "1-10"or "11-20" lights according to the selection of the preset function keys.
㉑ In tuner mode, lights when a station is tuned in.
㉒ In tuner mode, lights when a stereo broadcast is tuned in.
㉓ Displays the digital frequency display.
㉔ Lights during auto tuning.
㉕ Displays the tuner band "FM" or "AM".
㉖ Lights when the TAPE-2 key is pressed.
㉗ Display the VIDEO dubbing mode, VIDEO monitor out mode, EQ REC mode or through dubbing mode displays.
㉘ Lights when the AUDIO INJECTION is pressed.
㉙ Lights when the PGM/SET key is set to "PGM".
㉚ Lights when the PGM/SET key is set to "SET".

CIRCUIT DESCRIPTION

Description of components

TUNER UNIT (X05-352X-XX) 0-11 : K 1-02 : P 0-82 : U, UE

Ref No.	Parts No.	Use/Function	Operation/Condition/Compatibility
IC1	LA1235	FM IF detector	
IC2	LM7001	PLL (Phase Locked Loop)	
IC3	LA1245	AM detector	
IC4	LA3401	FM MPX	
IC7	NJM4558D-A or M5218P	For ALC amplification	Amplifier.
IC8	NJM4558D-A or M5218P	For amplification	Surround matrix.
IC9	MN3101	Clock oscillation	Clock oscillator for BBD IC.
IC10	MN3008	Delay device	BBD IC.
IC11	NJM4558D-A or M5218P	For amplification	Amplifier.
IC12	NE645N	Dolby IC	DOLBY.
IC13	NJM4558D-A or M5218P	For amplification	Amplifier.
IC14	STK4112/2	For power amplification	Power amplifier.
Q1	2SC1923(R,O)	IF amplifier	
Q2, 3	2SC1845(F,E)	PLL, Low-pass filter	
Q4	2SC2003(L,K)	5V constant voltage, for PLL	
Q5	DTA124ES	FM + B select	Turns ON in FM mode.
Q6	DTA124ES	AM + B select	Turns ON in AM mode.
Q7	DTC114ES	$\overline{FM + B}$ select	Turns ON in $\overline{FM}$ mode.
Q8	DTC114ES	TUNED indicator, for SD	Turns OFF when tuned.
Q9	DTC114ES	Forced mono select	Turns OFF in forced mono mode.
Q10	2SC1740S(Q,R) or 2SC945(A)(Q,P)	TUNED indicator, for SD	Turns ON when tuned.
Q11	2SC1740S(Q,R) or 2SC945(A)(Q,P)	Forced mono select	Turns ON in forced mono mode.
Q14, 15	DTC114ES	Seek level select	Q15 is ON and Q14 is OFF when low.
Q17	2SC2003(L,K)	+B ripple filter	
Q24	2SA992(F,E)	Microprocessor (μ-COM) power supply, for fast OFF	
Q25	2SA733(A)(Q,P) or 2SA933S(Q,R)	Relay driver for surround	
Q26	2SC1740S(Q,R) or 2SC945(A)(Q,P)	Relay driver for surround	
Q27	2SC2003(L,K)	Relay driver for surround	

POWER AMPLIFIER UNIT (X07-2350-11)

Ref. No.	Parts No.	Use/Function	Operation/Condition/Compatibility
IC1	μPC1237HA	Protection	Relay drive.
Q1 ~ 4	2SC1845(F,E)	Primary stage voltage amplification	
Q5 ~ 8	2SC945(A)(Q,P)	Primary stage cascode amplifier	
Q9 ~ 12	2SC1845(F,E)	Secondary stage voltage amplification	
Q13 ~ 16	2SA1123(R,S)	Third stage voltage amplification	
Q17, 18	2SA1123(R,S)	Third stage cascode amplifier	
Q19, 20	2SC2631(R,S)	Third stage current mirror	
Q21, 22	2SC3944(Q,R)	Power amplifier driver	
Q23, 24	2SA1535(Q,R)	Power amplifier driver	
Q25, 26	2SC2631(R,S)	Protection, current detection	Positive (+) side.
Q27, 28	2SA992(F,E)	Protection, current detection	Negative (−) side.
Q29	2SA992(F,E)	Protection	Transmits the current detected signal to IC1.

CIRCUIT DESCRIPTION

AUDIO UNIT (X09-2470-14)

Ref. No.	Parts No.	Use/Function	Operation/Condition/Compatibility
IC1	NJM4558D-A or M5218P-A	Phono equalizer	
IC2	TC9164N	Input selector select	
IC3	TC9163N	Input selector select	
IC4	TC9162N	GE, GE REC ON/OFF, surround mode select	
IC5	NJM4558D-A or M5218P-A	Buffer for REC	
IC6	LC7522	VR array for GE (Graphic Equalizer)	
IC7, 8	M5229P	Op amplifier for GE	Semiconductor L (self-reactance) x 7.
IC9	NJM4558D-A or M5218P-A	OP amplifier for surround	Stadium surround.
IC10, 11	CXD1120P-1	Electronic volume	IC10 for front channel, IC11 for rear channel.
IC12	μPC78M15H	3-pin regulator	15V.
Q3 ~ 6	2SK163(L,M)	PHONO input stage	Differential input section.
Q9, 10	2SC2878	Muting	Muting when changing the selector.
Q11	2SA733(A)(Q,P)		Q9 and Q10 are driven by open collector.
Q13, 14	2SC945(A)(Q,P)	L and R mixer for spectrum analyzer	Emitter follower.
Q15, 16	2SC1845(F,E)	Stadium surround	Input buffer amplifier.
Q17, 18	2SC2878	Muting	Muting for MAIN IN section.
Q19	2SC945(A)(Q,P)	Drive circuit for muting	
Q20	2SA733(A)(Q,P)	Drive circuit for muting	
Q21,22	2SC1845(F,E)	Buffer for rear-channel amplifier	
Q23, 24	2SC2878	Muting	Muting for rear-channel amplifier.
Q25, 26	2SB941(Q,P)	Constant voltage for −33V	
Q27	2SD1929	For FL ON (go on) timing	Switch for −33V, high-ß (beta) transistor.
Q28	2SA733(A)(Q,P)		
Q29	2SA992(F,E)	For FL OFF (go out) on power OFF	
Q30	2SD1266(Q,P)	For −14V constant voltage	Inverted-darlington connection with Q32.
Q31	2SA733(A)(Q,P)	−14V constant voltage	Error amplification.
Q32	2SA733(A)(Q,P)	−14V constant voltage	
Q33	2SD1266(Q,P)	5V constant voltage	5V power supply for display.
Q34	2SD1266(Q,P)	5V constant voltage	5V power supply for microprocessor.
Q35	2SA992(F,E)	Relay drive for surround	
Q36	2SC2003(L,K)	Relay drive for surround	
Q37, 38	2SC3419(Y)	For main amplifier bias	
Q39, 40	2SD1718*5	Main amplifier final stage	
Q41, 42	2SB1163*5	Main amplifier final stage	

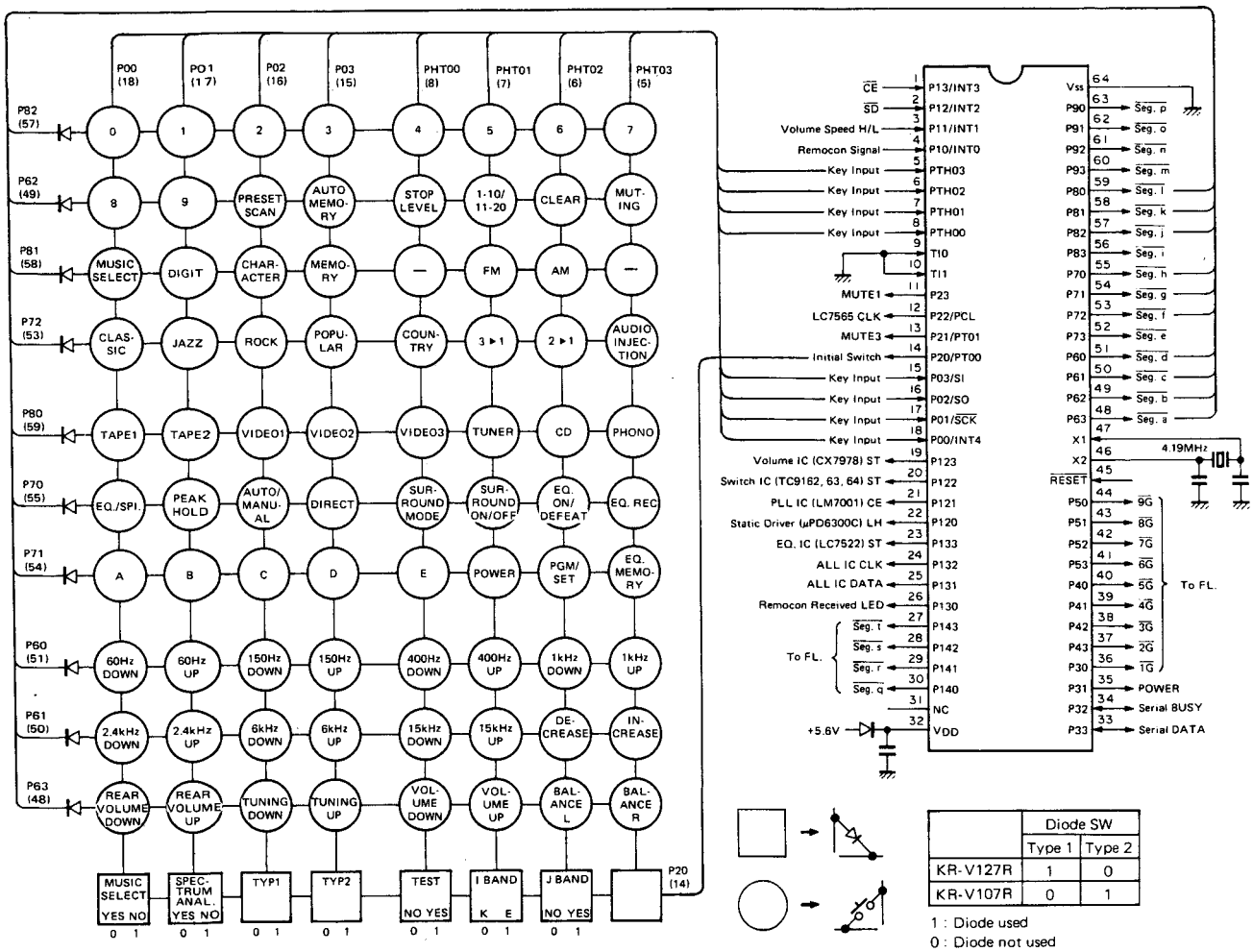
DISPLAY UNIT (X14-213X-XX) 0-13 : K, P 0-84 : U, UE

Ref. No.	Parts No.	Use/Function	Operation/Condition/Compatibility
IC1	μPD75108CW-041	Microprocessor	
IC2 ~ 5	μPA80C	Transistor array (for FL drive)	Active low.
IC6	μPD6300C	Static driver (for FL drive)	
IC7	LC7565	GE, SP display IC	
IC8, 9	LB1294	Transistor array (for FL drive)	Active high.
IC10, 11	μPD4001BC	Logic IC	Data mute circuit.
IC12, 13	μPD4066BC	Analog switch IC	Video select.
IC14 ~ 17(2/2)	AN6556	Spectrum analyzer band-pass filter	
IC17(1/2)	AN6556	Spectrum analyzer band-pass filter	Input amplifier.
Q1 ~ 4	DTA143EFF	Digital transistor (for FL drive)	
Q7	2SC945(A)(Q,P)	For through-dubbing control	Turns OFF when a through-dubbing operation is activated in VIDEO 2 and VIDEO 3 mode.
Q8 ~ 10	2SA999(E,F)	Video output buffer	
Q11	2SC1845(F,E)	Data mute circuit	
Q12	2SC945(A)(Q,P)	Realy drive	
Q13	2SC2003(L,K) or 2SD1266	Realy drive	
Q14	2SC945(A)(Q,P)	Microprocessor reset circuit	Turns ON for several milli-seconds, when power is turned ON.

CIRCUIT DESCRIPTION

Microprocessor : μPD75108CW-041 (X14-2130-13 : IC1)

Terminal connection



	Diode SW	
	Type 1	Type 2
KR-V127R	1	0
KR-V107R	0	1

1 : Diode used
0 : Diode not used

• Volume IC CX7978
CLK (9), DATA (10), ST (11)

	CS1 (4)	CS2 (5)	M/S (6)
FRONT	Vss	Vss	OPEN or VDL
REAR	OPEN or VDL	OPEN or VDL	OPEN or VDL

The ST signal to the IC is input by differentiating the signal from the microcomputer.

• PLL IC LM7001
CLK (2), DATA (4), ST (3)

	AO	BO
FM	1	0
AM	0	1
Except TUNER	0	0

• Switch IC CLK (15), DATA (16), ST (13)

	S1	S2	S3	S4	S5	S6	S7	S8
TC9162N	$\overline{\text{EQ REC}}$	EQ REC	$\overline{\text{EQ ON}}$	EQ ON	DOLBY	THEATER	STADIUM	–
TC9163N	VIDEO 2 2→1 (V1 REC)	VIDEO 3 3→1 (V1 REC)	AUDIO INJECTION 1 (V1 REC)	VIDEO 1	VIDEO 2	VIDEO 3	VIDEO 1 (V2 REC)	VIDEO 3 (V2 REC)
TC9164N	TAPE 1	CD/AUX	PHONO	TUNER	$\overline{\text{TAPE 2 PLAY}}$	TAPE 2 PLAY	AUDIO INJECTION 2 (V2 REC)	$\overline{\text{TAPE 1}}$

The ST signal to the IC is input differentiating the signal from the microcomputer.

• Static Driver IC μPD6300C CLK (12), DATA (11), LH (10)

Output	O0 (15)	O1 (16)	O2 (17)	O3 (18)	O4 (19)	O5 (20)	O6 (21)	O7 (22)	O8 (23)	O9 (24)
Display	⊏	—	FM	AM	AUTO	—	SEEK LEVEL	(2)	1 EQ REC	⌐
Terminal	PD7	PD3	PD6	PD5	PD4	PD2	PD1	PC11	PC9	PC6
Output	O10 (25)	O11 (26)	O12 (27)	O13 (1)	O14 (2)	O15 (3)	O16 (4)	O17 (5)	O18 (6)	O19 (7)
Display	AUDIO INJECTION	TAPE 1 EQ REC	⋮	▲ ⋮	EQ ON	SURROUND	TAPE 2	⌐	(3)	(1)
Terminal	PC4	PC2	PB2	PB1	PC1	PC3	PC5	PC7	PC10	PC12

• Equalizer IC LC7522 S (13) : VEE, CLK (17), DATA (16)
• EQ./SPI display IC LC7565 S1 (15), S2 (16) : VDD, CLK (18), DATA (17)

CIRCUIT DESCRIPTION

Terminal functions

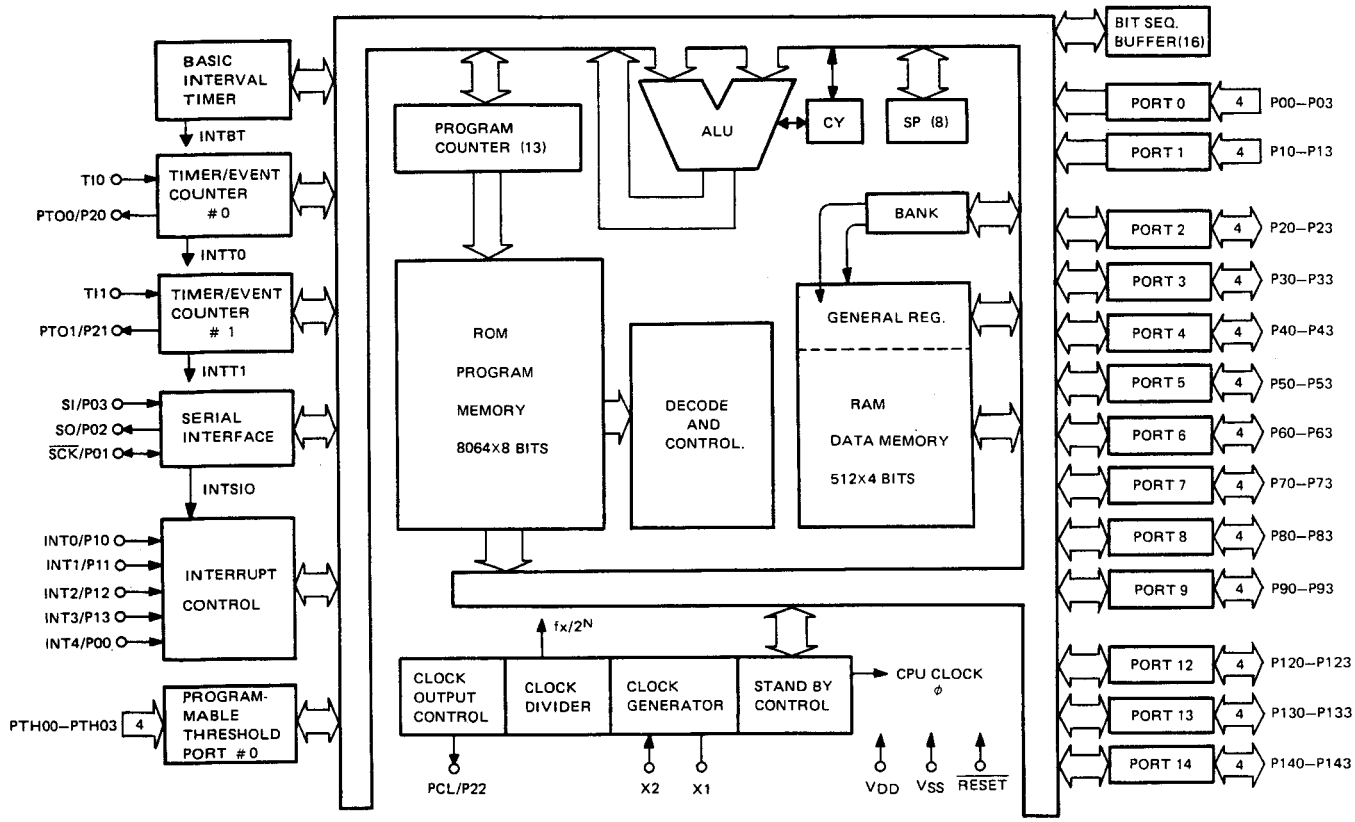
Pin No.	Pin name	I/O	Name	Description
1	P13/INT3	I	$\overline{CE}$	Backup detection pin. When this goes low level, backup mode is set and the clock stops.
2	P12/INT2	I	$\overline{SD}$	Station presence/absence detection signal input pin: Used in Auto Tuning, Auto Memory, and Preset Scan. High : station is not present, Low : Station is present.
3	P11/INT1	I	Volume Speed	Volume data output inhibition time setting port : Used when electronic volume CX7978 malfunctions at low temperature. High : 400ms, Low : 96ms.
4	P10/INT0	I	Remocon Signal	Remote control signal input pin after detection : Inputs the remote control signal level in normal mode and when reading out the leader code. Detects the signal by interruption the rising edge when reading the data.
5~8	PTH03~ PTH00	I	Key Input	Key matrix return signal input pin : Normally high. (Threshold voltage = VDD x 7.5/16, Conversion time : 32.3μs).
9 10	TI0 TI1	I	Not used	No-connection input pin. Fixed at VDD or Vss.
11	P23	O	MUTE1	Muting signal output pin : Used when the Input Selector is changed, during tuning scan, etc. Normally low, Active high.
12	P22/PCL	O	LC7565 CLK	Output pin to be connected to the CLK pin of LC7565. Normally low.
13	P21/PTO1	O	MUTE3	• With the volume level of the front channel set to between 0 and −28dB, outputs the muting signal for a short period (about 10msec.) when the TAPE2 ON/OFF, EQ ON/OFF, EQ REC ON/OFF, surround ON/OFF or surround mode selector is switched. • When the volume level of the front channel is set to − ∞ dB, outputs the muting signal.
14	P20/PTO0	O	Initial SW	Strobe signal for taking in the initial switch. Momentarily low immediately after reset, otherwise always high.
15~18	P03/SI~ P00/INT4	I	Key Input	Key matrix returns signal input pin : Normally high.
19	P123	O	Volume IC (CX7978)ST	• ST signal output pin for the electronic volume IC (CX7978) . • Normally high, and low when data is output. • The microprocessor signal is input to the ST pin of CX7978 after differentiating.
20	P122	O	Switch IC (TC9162N, 9163N, 9164N)ST	• ST signal output pin for the switch ICs (TC9162N, TC9163N. amd TC9164N). • Normally high, and low when data is output. • The microprocessor signal is input to the ST pin after differentiating.
21	P121	O	PLL IC (LM7001)CE	• CE signal output pin for the PLL IC (LM7001) . • Normally low, and high when data is output.
22	P120	O	Static Driver (μPD6300C)LH	• LH signal output pin for the Static Driver IC (μPD6300C) . • Normally low, and high when data is output.
23	P133	O	EQ IC (LC7522)ST	• The signal pin used to mute the CLK and DATA signals to the other ICs, so that the signal is not input to the CLK and DATA pins of LC7522. • Normally high, and low when data is output.
24	P132	O	CLK	• CLK signal output pin for CX7978, TC9162N, TC9163N, TC9164N, LM7001, and LC7522.
25	P131	O	DATA	• DATA signal output pin for CX7978, TC9162N, TC9163N, TC9164N, LM7001, LC7522, and LC7565.
26	P130	O	Remocon Received LED	Directly drives the remote control STANDBY/RECEIVED LED. It blinks while the remote control signal is being received, and is lit otherwise.

CIRCUIT DESCRIPTION

Pin No.	Pin name	I/O	Name	Description
27 28 29 30	P143 P142 P141 P140	O	$\overline{\text{Seg t}}$ $\overline{\text{Seg s}}$ $\overline{\text{Seg r}}$ $\overline{\text{Seg q}}$	• FL segment control pin. • Negative logic. • Drives the FL display through an inversion buffer.
31	NC			
32	VDD			Power supply pin.
33	P33	I/O	Serial DATA	• DATA pin for system serial communication . • Normally in input mode, and in output mode only when serial data is output.
34	P32	I/O	Serial BUSY	• BUSY pin for system serial communication . • Normally in input mode. Outputs a high level signal when serial data is output. Also provides the serial bus control function.
35	P31	O	POWER	Output pin for the power relay control : Active high. This is controlled by the POWER key. It alternates between high (Power ON) and low (Power OFF) each time the POWER key is pressed.
36 37 38 39 40 41 42 43 44	P30 P43 P42 P41 P40 P53 P52 P51 P50	O	$\overline{\text{1G}}$ $\overline{\text{2G}}$ $\overline{\text{3G}}$ $\overline{\text{4G}}$ $\overline{\text{5G}}$ $\overline{\text{6G}}$ $\overline{\text{7G}}$ $\overline{\text{8G}}$ $\overline{\text{9G}}$	• FL digit control pin. • Negaitve logic. • Drives the FL display through an inversion buffer.
45	$\overline{\text{RESET}}$	I		Input pin for the reset signal from the microcomputer .
46 47	X2 X1			• System clock oscillator pin (4.194MHz) .
48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63	P63 P62 P61 P60 P73 P72 P71 P70 P83 P82 P81 P80 P93 P92 P91 P90	O	$\overline{\text{Seg a}}$, Key $\overline{\text{Seg b}}$, Key $\overline{\text{Seg c}}$, Key $\overline{\text{Seg d}}$, Key $\overline{\text{Seg e}}$ $\overline{\text{Seg f}}$, Key $\overline{\text{Seg g}}$, Key $\overline{\text{Seg k}}$, Key $\overline{\text{Seg i}}$ $\overline{\text{Seg j}}$, Key $\overline{\text{Seg k}}$, Key $\overline{\text{Seg l}}$, Key $\overline{\text{Seg m}}$ $\overline{\text{Seg n}}$ $\overline{\text{Seg o}}$ $\overline{\text{Seg p}}$	• FL segment control pin . • Negative logic. • Drives the FL display through an inversion buffer. • Key intake strobe signal output pin.
64	Vss			GND pin.

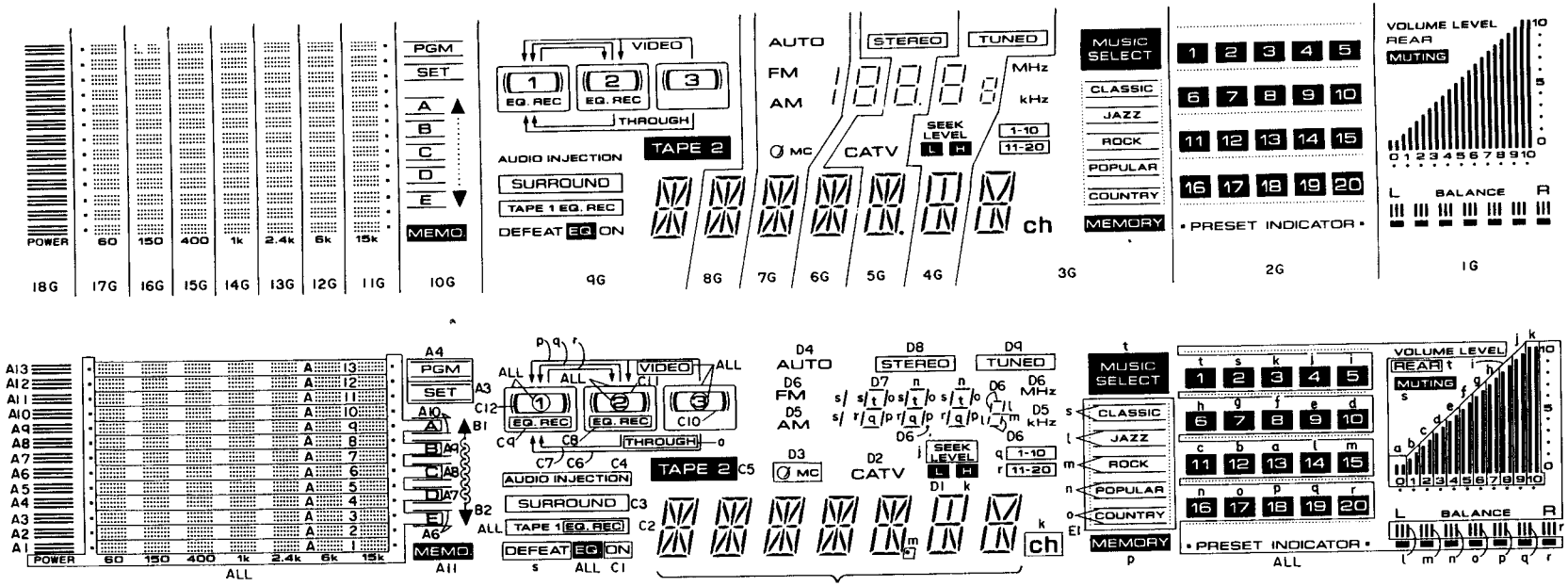
CIRCUIT DESCRIPTION

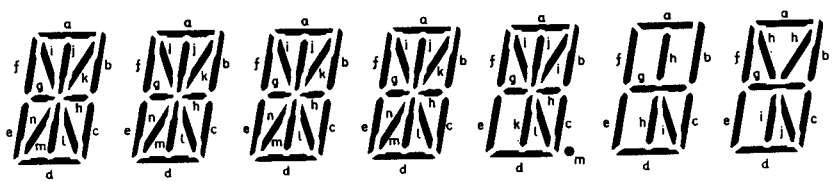
Block diagram



CIRCUIT DESCRIPTION

Indicator tube : FIP20AMW30 (X14-2130-13 : FL1)





Terminal No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Electrode	F	F	F	P(A1)	P(A2)	18G	P(A3)	P(A5)	17G	P(A6)	P(A7)	16G	P(A8)	P(A9)	15G	P(A10)	14G	P(A11)	P(A12)	13G
Terminal No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Electrode	P(A13)	12G	P(ALL)	P(A4)	11G	P(B1)	P(B2)	P(C1)	10G	P(s)	P(C2)	IC	9G	P(C3)	P(C4)	P(C5)	P(C6)	P(C7)	P(C8)	9G
Terminal No.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Electrode	P(C9)	P(C10)	P(C11)	P(C12)	P(D1)	9G	P(D2)	8G	P(D4)	P(D5)	7G	P(D6)	P(D3)	6G	5G	P(D7)	P(D8)	P(t)	5G	P(D9)
Terminal No.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Electrode	4G	P(m)	P(l)	P(r)	4G	P(q)	P(p)	3G	P(o)	P(n)	P(m)	3G	2G	P(l)	P(E1)	P(t)	P(k)	P(j)	2G	P(i)
Terminal No.	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	
Electrode	P(k)	P(h)	P(g)	2G	P(f)	1G	P(g)	P(n)	P(l)	P(m)	P(e)	P(d)	P(c)	1G	P(b)	p(a)	F	F	F	

Notes F : Filament P : Anode
G : Grid IC : Internally Connected Pin

Since the segments "t", "m", "l", "n", "g", and "k" are not connected inside the FL display, they must be connected externally (on the PC Board).

CIRCUIT DESCRIPTION

Test mode

(1) Setup and release of test mode

Setup : Apply test mode diode and reset the microprocessor. In actual sets, short-circuit the test mode set pins.

Release : Without the test mode diode, reset the microprocessor. In actual sets, open the test mode set pins.

(2) Contents of test mode

- **Volume Up/Down operation**
  The operation attenuation level can be set at 3 points; 0dB, −28dB, and −∞dB.
- **Rear volume Up/Down operation**
  The operation level can be set at 3 points; −20dB, 0dB, and + 20dB.
- **Balance operation**
  Operation mode can be set at 3 points; L, center, and R.
- **EQ (Equalizer) Up/Down operation**
  The operation level can be set at 3 points; + 12dB, 0dB, and −12dB for each frequency band.

- **Setting of the tuner adjustment frequency**

Preset channel	Contents		Preset channel	Contents	
	K type	E type		K type	E type
1	FM 87.5MHz	FM 87.5MHz	11	AM 530kHz	AM 531kHz
2	FM 89.1MHz	FM 89.1MHz	12	AM 630kHz	AM 630kHz
3	FM 90.0MHz	FM 90.0MHz	13	AM 990kHz	AM 990kHz
4	FM 92.0MHz	FM 92.0MHz	14	AM 1440kHz	AM 1440kHz
5	FM 94.0MHz	FM 94.0MHz	15	AM 1610kHz	AM 1602kHz
6	FM 98.0MHz	FM 98.0MHz	16	–	–
7	FM 100.1MHz	FM 100.1MHz	17	–	–
8	FM 102.0MHz	FM 102.0MHz	18	–	–
9	FM 106.0MHz	FM 106.0MHz	19	–	–
10	FM 108.0MHz	FM 108.0MHz	20	–	–

Initialization

(1) Amplifier section

- AUDIO SELECTOR : TUNER
- TAPE 2 : OFF
- VIDEO SELECTOR : VIDEO 1
- Volume : −56dB
- Rear volume : 0dB
- Balance : center position
- AUDIO INJECTION : OFF
- Through dubbing : OFF
- SURROUND selector : OFF (DOLBY is selected when turned ON)

(2) Graphic Equalizer (EQ) section

- EQ memory mode : PGM
- EQ memory channel : Last memory setting (not preset channel)
- EQ status : ±0dB, FLAT
- Contents of EQ program memory : ±0dB, FLAT for all channels
- When SET mode is activated, "A" is recalled.
- INC/DEC : None
- EQ : OFF
- EQ REC : OFF

(3) Tuner section

- Receiving frequency : FM lower limit
- AUTO mode
- SEEK LEVEL : High
- Preset function : 1 to 10
- MUSIC SELECT : OFF
- Preset memory : All clear

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	RECEIVER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION		INPUT SELECTOR: FM MODE: STEREO					
1	DISCRIMINATOR (1)	(A) 98.0MHz 1kHz,±75kHz dev 60dBμ(ANT input)	Connect a DC voltmeter between TP4 and 5.	MONO 98.0MHz	L2 (X05-)	0V	(a)
2	DISCRIMINATOR (2)	(A) 98.0MHz 1kHz,±75kHz dev 60dBμ(ANT input)	(B)	MONO 98.0MHz	L3 (X05-)	Minimum distortion.	
Repeat alignments 1 and 2 several times.							
3	DISTORTION (STEREO)	(C) 98.0MHz 1kHz,±68.25kHz dev Selector:L or R Pilot: ±6.75kHz dev 60dBμ(ANT input)	(B)	98.0MHz	IFT (Front end)	Minimum distortion.	
4	SEPARATION	(C) 98.0MHz 1kHz,±68.25kHz dev Selector:L or R Pilot: ±6.75kHz dev 60dBμ(ANT input)	(B)	98.0MHz	VR2 (X05-)	Minimum crosstalk. A compromise adjustment may be required if left-to-right and right-to-left separations are unequal.	
5	TUNING LEVEL	(A) 98.0MHz 0 dev 13dBμ(ANT input)	–	AUTO or MONO 98.0MHz	VR1 (X05-)	Adjust VR1 and stop at the point where FL1(TUNED) goes on.	
AM SECTION		Keep the loop antenna installed.		INPUT SELECTOR:AM			
(1)	BAND EDGE (1)	–	Connect a DC voltmeter to TP3.	530kHz (531kHz)	L9 (X05-)	1.5V	(b)
(2)	BAND EDGE (2)	–	Connect a DC voltmeter to TP3.	1610kHz (1602kHz)	TC2 (X05-)	8.0V	(b)
Repeat alignments (1) and (2) several times.							
(3)	RF ALIGNMENT (1)	(D) 600(603)kHz 400Hz,30% mod	(B)	600kHz (603kHz)	L8 (X05-)	Maximum amplitude and symmetry of the oscilloscope display.	
(4)	RF ALIGNMENT (2)	(D) 1400(1404)kHz 400Hz,30% mod	(B)	1400kHz (1404kHz)	TC1 (X05-)	Maximum amplitude and symmetry of the oscilloscope display.	
Repeat alignments (3) and (4) several times.							
(5)	IF TRANSFORMER	(D) 1000(999)kHz 400Hz,30% mod	(B)	1000kHz (999kHz)	L10 (X05-)	Maximum amplitude and symmetry of the oscilloscope display.	
AUDIO SECTION							
[1]	IDLE CURRENT	–	(E) Connect a DC voltmeter across CP1(L) CP2(R)	Main volume: 0	VR1(L) VR2(R) (X07-)	10mV	(c)
[2]	DOLBY SURROUND CENTER ADJUSTMENT	(F) Connect an AG(1kHz) to CD/AUX jack(L or R).	Connect an oscilloscope between TP8 and GND.	Main volume:0 Increase the input level until the waveform clips.	VR4 (X05-)	Adjust so that the upper and lower waveform clips becomes symmetrical.	(d)
[3]	DOLBY SURROUND CLOCK LEAKAGE ADJUSTMENT	(F) Cut off the input signal level.	Connect an oscilloscope between TP8 and GND.	–	VR5 (X05-)	Adjust so that the height of the clock frequency(several 10kHz) becomes minimum.	(d)
Perform adjustment [3] after completion of adjustment [2].							
[4]	SPECTRUM ANALYZER SENSITIVITY ADJUSTMENT	(F) Connect an AG(12mV,1kHz) to CD/AUX jack(L & R).	–	–	VR1 (X14-)	To the position so that the lowest level of the spectrum analyzer lights.	

REGLAGE

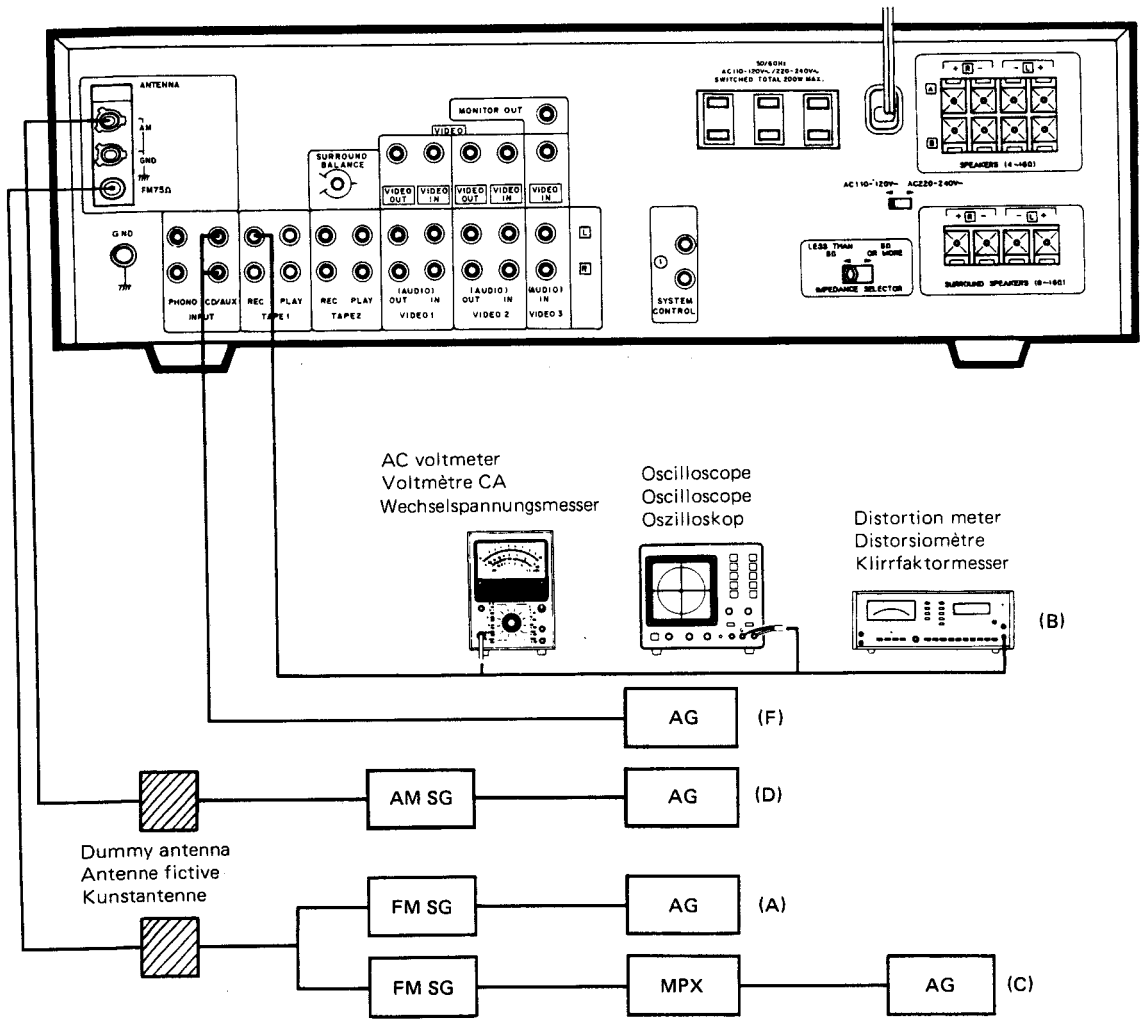
N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU AMPLI-TUNER	POINT DE L'ALIGNEMENT	ALIGNER POUR	FIG.
SECTION MF	Sauf en cas d'indications spéciales, régler chaque commutateur comme suit: SELECTEUR DES ENTRESS: MF MODE: STEREO						
1	DISCRIMINATEUR (1)	(A) 98,0MHz 1kHz.±75kHz dév 60dBμ(Entrée ANT)	Relier un voltmètre CC entre les TP4 et TP5.	MONO 98,0MHz	L2 (X05-)	0V	(a)
2	DISCRIMINATEUR (2)	(A) 98,0MHz 1kHz.±75kHz dév 60dBμ(Entrée ANT)	(B)	MONO 98,0MHz	L3 (X05-)	Distorsion minimale.	
	Répéter les points 1 et 2 plusieurs fois.						
3	DISTORSION (STEREO)	(C) 98,0MHz 1kHz.±68,25kHz dév Selection:L ou R Signal pilote: ±6,75kHz dév 60dBμ(Entrée ANT)	(B)	98,0MHz	Tête H.F. IFT (X05-)	Distorsion minimale.	
4	SEPARATION	(C) 98,0MHz 1kHz.±68,25kHz dév Selection:L ou R Signal pilote: ±6,75kHz dév 60dBμ(Entrée ANT)	(B)	98,0MHz	VR2 (X05-)	Diaphonie minimale. Un compromis de réglage peut être nécessaire si les séparation de gauche à droite et droite à gauche sont inéglage.	
5	NINEAU D'ACCORDER	(A) 98,0MHz 0 dév 13dBμ(Entrée ANT)	–	AUTO ou MONO 98,0MHz	VR1 (X05-)	Ajuster VR1 et arrêter le mouvement de VR1 au moment où le FL1(TUNED)s'allume.	
SECTION MA		Laisser l'antenne bouche MA installée. SELECTEUR: AM					
(1)	BORD DE BANDE (1)	–	Relier un voltmètre CC au TP3.	530kHz (531kHz)	L9 (X05-)	1,5V	(b)
(2)	BORD DE BANDE (2)	–	Relier un voltmètre CC au TP3.	1610kHz (1602kHz)	TC2 (X05-)	8,0V	(b)
	Répéter les points (1) et (2) plusieurs fois.						
(3)	ALIGNEMENT H.T. (1)	(D) 600(603)kHz 400Hz.30% mod	(B)	600kHz (603kHz)	L8 (X05-)	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
(4)	ALIGNEMENT H.T. (2)	(D) 1400(1404)kHz 400Hz.30% mod	(B)	1400kHz (1404kHz)	TC1 (X05-)	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
	Répéter les points (3) et (4) plusieurs fois.						
(5)	TRANSFORMATEUR F.I.	(D) 1000(999)kHz 400Hz.30% mod	(B)	1000kHz (999kHz)	L10 (X05-)	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
SECTION AUDIO							
[1]	COURANA DE POLARISATION	–	(E) Connecter un voltmètre CC CP1(CP2)	Volume principal: 0	VR1 (G) VR2 (D) (X07-)	10mV	(c)
[2]	AJUSTEMENT CENTRAL DE L'ENVIRONNEMENT DOLBY	(F) Relier un AG(1kHz) au CD/AUX prise (L ou R).	Relier un oscilloscope entre les TP8 et GND.	Volume principal: 0 Augmenter le niveau d'entrée jusqu'à ce que la forme d'onde s'écrête.	VR4 (X05-)	Ajuster pour que les écrêtements des formes d'onde supérieure et inférieure soient symétriques.	(d)
[3]	AJUSTEMENT DE FUITE DE L'HORLOGE DE L'ENVIRONNEMENT DOLBY	(F) Couper le niveau de signal d'entrée.	Relier un oscilloscope entre les TP8 et GND.	–	VR5 (X05-)	Ajuster pour que la hauteur de la fréquence de l'horloge (plusieurs dizaines de kHz) devienne minimum.	(d)
	Effectuer l'ajustement [3] après avoir terminé l'ajustement[2].						
[4]	AJUSTMENT DE LA SENSIBILITE DE L'ANALYSEUR DE SPECTRE	(F) Relier un AG (12mV, 1kHz) au CD/AUX prise (L et R).	–	–	VR1 (X14-)	Sur la position où le niveau le plus bas de l'analyseur de spectre s'allume.	

ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	RECEIVER-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
UKW-EMPFANGSABTEILUNG		Außer wenn anders angegeben, die verschiedenen Schalter wie folgt einstellen: EINGANGSUMSCHALTER: FM		MODE: STEREO			
1	DISKRIMINATOR (1)	(A) 98.0MHz 1kHz.±75kHz Hub 60dBμ(ANT-Eingang)	Einen Gleichspannungs-messer zwischen TP4 und TP5 anschließen.	MONO 98.0MHz	L2 (X05-)	0V	(a)
2	DISKRIMINATOR (2)	(A) 98.0MHz 1kHz.±75kHz Hub 60dBμ(ANT-Eingang)	(B)	MONO 98.0MHz	L3 (X05-)	Minimal Klirrfaktor.	
Abstimmungen 1 und 2 mehrere Male wiederholen.							
3	KLIRRFAKTOR (STEREO)	(C) 98.0MHz 1kHz.±68.25kHz Hub Wähler:L oder R Pilotten: ±6.75kHz Hub 60dBμ(ANT-Eingang)	(B)	98.0MHz	Frontende IFT (X05-)	Minimal Klirrfaktor.	
4	STEREO KANAL TRENNUNG	(C) 98.0MHz 1kHz.±68.25kHz Hub Wähler:L oder R Pilotten: ±6.75kHz Hub 60dBμ(ANT-Eingang)	(B)	98.0MHz	VR2 (X05-)	Minimales Übersprechen. Eine Ausgleich-regelung kann notwendig sein, falls links-zu-rechts und rechts-zu-links. Trennungen ungleich sind.	
5	ABSTIMM PEGEL	(A) 98.0MHz 0 Hub 13dBμ(ANT-Eingang)	–	AUTO oder MONO 98.0MHz	VR1 (X05-)	Den Pegel wiederstand aufdrehen, und dem VR1 Halt geben wobei den FL1(TUNED) anzeiger leuchtet wird.	
MW-EMPFANGSABTEILUNG		Die MW-Rahmenantenne angebracht lassen. WÄHLER: AM					
(1)	BANDKANTE (1)	–	Einen Gleichspannungs-messer zu TP3 anschließen.	530kHz (531kHz)	L9 (X05-)	1.5V	(b)
(2)	BANDKANTE (2)	–	Einen Gleichspannungs-messer zu TP3 anschließen.	1610kHz (1602kHz)	TC2 (X05-)	8.0V	(b)
Abstimmungen (1) und (2) mehrere Male wiederholen.							
(3)	HF-ABGLEICH (1)	(D) 600(603)kHz 400Hz.30% mod	(B)	600kHz (603kHz)	L8 (X05-)	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
(4)	HF-ABGLEICH (2)	(D) 1400(1404)kHz 400Hz.30% mod	(B)	1400kHz (1404kHz)	TC1 (X05-)	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
Abstimmungen (3) und (4) mehrere Male wiederholen.							
(5)	ZF-ÜBERTRAGER	(D) 1000(999)kHz 400Hz.30% mod	(B)	1000kHz (999)kHz	L10 (X05-)	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
AUDIO-ABTEILUNG							
[1]	LEERLAUFSTROM	–	(E) Einen Gleichspannungs-messer über CP1(CP2)	Haupt-lautstärke: 0	VR1 (L) VR2 (R) (X07-)	10mV	(c)
[2]	MITTEL-EINSTELLUNG DES DOLBY-RAUMKLANGS	(F) Einen AG(1kHz) zu CD/AUX Buchse anschließen. (L oder R)	Einen Oszilloskop zwischen TP8 und GND anschließen.	Haupt-lautstärke: 0 Den Eingangs-pegel erhöhen, bis die Wellen-form abgesch-nitten wird.	VR4 (X05-)	So einstellen, daß die Abschneidung der oberen und unteren Wellenform symmetrisch wird.	(d)
[3]	TAKTSTRENUNG-EINSTELLUNG DES DOLBY-RAUMKLANGS	(F) Den Eingangs-signalpegel abschneiden.	Einen Oszilloskop zwischen TP8 und GND anschließen.	–	VR5 (X05-)	So einstellen, daß die Höhe der Taktfrequenz(einige 10kHz) minimal wird.	(d)
Die Einstellung[3] nach Beendingung der Einstellung[2] durchführen.							
[4]	EINSTELLUNG DER SPEKTRUM-ANALYSATOR-EMPFINDLICHKEIT	(F) Einen AG(12mV,1kHz) zu CD/AUX Buchse anschließen (L und R).	–	–	VR1 (X14-)	Auf die Position, so daß der niedrigste Pegel des Spektrum-analysators leuchtet.	

ADJUSTMENT/REGLAGE/ABGLEICH

System connections/Raccordements du système/System-Anschlusse



KR-V107R

VOLTAGE CHECK TABLE

X05-352X-XX

IC1

1~3	3.0V	12	4.6V
4, 5	0V	13	1.3V
6	6.1V	14	0V
7~10	6.2V	15	0.42V
11	13.4V	16	0.47V

IC2

1	1.0V	11	2.7V
2	1.5V	12,13	5.0V
6, 7	0V	14	0V
8	14.0V	15	1.1V
9	0.12V	16	0V
10	0V		

IC3

1	0.1V	11	0.7V
2	0.5V	12	0V
3	0.9V	13	2.0V
4	0V	14	12.4V
5	1.4V	15	1.6V
6	1.1V	16	0V
7, 8	1.4V	17	3.8V
9	2.7V	18, 19	1.3V
10	10.2V	20	0V

IC4

1~4	3.2V	14	4.9V
5	3.1V	15	0V
6, 7	3.2V	16	1.5V
8	3.1V	17	2.8V
9	3.2V	18	2.6V
10	0V	19, 20	2.7V
11	0.4V	21	3.4V
12	0V	22	13.5V
13	4.7V		

IC9

1	5.4V	5	−0.9V
2	0.5V	6, 7	−0.5V
3	−6.6V	8	−5.8V
4	−0.5V		

IC10

1	6.7V	6	−0.5V
2	−0.5V	7	0V
3, 4	−0.2V	8	−5.8V
5	−6.6V		

IC12

1~7	6.8V	13	1.2V
8	1V	14, 15	6.8V
9	0V	16	14V
10~12	6.8V		

IC14

3	0V	14	−22V
6	0V	16	0V
9	−22V		

	B	C	E
Q4	6.0V	14.1V	5.4V
Q5	0.12V	13.9V	1.4V
Q6	14.0V	1.4V	14.1V
Q7	13.9V	0V	–
Q8	4.6V	–	–
Q9	3.0V	–	–
Q10	0V	4.7V	–
Q14	0V	0.2V	–
Q15	3.9V	0V	–
Q17	14.9V	15.0V	14.1V

X14-213X-XX

IC1

32	5V	45	5V

IC2~5

8	−30V	9	5V

IC8, 9

8	5V	9	−30V

IC12

1	2.9V	10, 11	3.3V
2, 3	3.6V	12	4.3V
4	2.9V	13	0V
5~9	0V	14	5.6V

IC13

1	2.9V	7	0V
2, 3	3.3V	8~10	3.3V
4	2.9V	11	3.6V
5	0V	12, 13	0V
6	3.9V	14	5.6V

IC14~16

1~3	0.4V	5~7	0.4V
4	−1.51V	8	6.8V

IC17

1	−0.2V	4	−15.1V
2	−0.3V	5~7	0.4V
3	−0.4V	8	15.0V

	B	C	E
Q1~4	–	–	5V
Q7	–	4.3V	–

X07-2350-11

IC1

6	0.7V

	B	C	E
Q3, 4	−2.0V	–	–
Q15, 16	–	1.1V	–
Q19, 20	–	−1.1V	–
Q21, 22	–	54V	0.6V
Q23, 24	–	−5.4V	−0.6V
Q25~28	–	–	0V
Q29	–	–	54V

X09-2470-14

IC1

2, 3	11.6V	5, 6	11.6V

IC2~4

1	−13.2V	28	5V

IC5

1~3	0.03V	5~7	0.03V
4	−13.2V	8	15V

IC6

1	6.8V	15	5V
11~14	−6.8V		

IC7, 8

18	15V	20	−13.2V

IC9

1~3	−2.4V	5~7	−2.4V
4	−13.2V	18	15V

IC10

4, 5	−13.2V	12	3.2V
8	−13.2V	13	15V

IC11

7	−8.5V	12	3.2V
8	−13.2V	13	15V

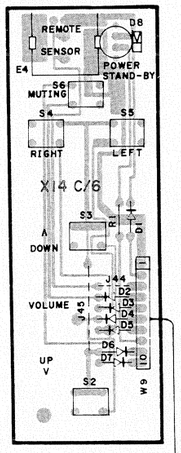
IC12

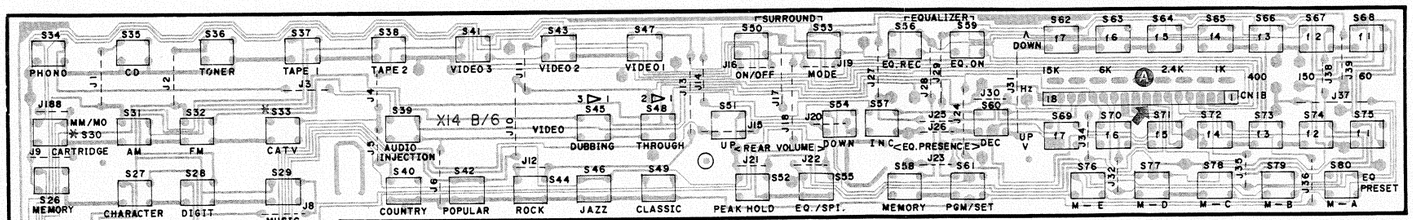
1	21V	2	15V

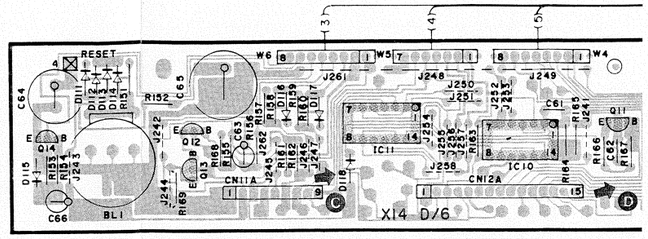
	G	S	D
Q3~6	–	0.3V	11.6V

	B	C	E
Q13, 14	−2.3V	15V	–
Q15, 16	–	15V	−2.4V
Q20	–	–	15V
Q21, 22	–	15V	–
Q25, 26	–	−45V (−62V)	−33V
Q27	–	−32V	−33V
Q30	–	−13.2V	−13.2V
Q32	–	–	−13.2V
Q33	–	10.7V	5.6V
Q34	–	13V	5.6V

PC BOARD (COMPONENT SIDE VIEW)







X05-352X-XX A/6

DESTINATION	Ref. NO	Q12	Q13
KR-V127R(K)	0-10	YES	YES
KR-V107R(K)	0-11	NO	NO

X14-213X-XX B/6

DESTINATION	Ref. NO	S30	S33
KR-V127R(K)	0-10	YES	YES
KR-V107R(K)	0-13	NO	NO

(d) DOLBY SURROUND CENTER ADJUSTMENT :
Adjust so that the upper and lower waveform clips becomes symmetrical.

DOLBY SURROUND CLOCK LEAKAGE ADJUSTMENT :
Adjust so that the height of the clock frequency (several 10kHz) becomes minimum.

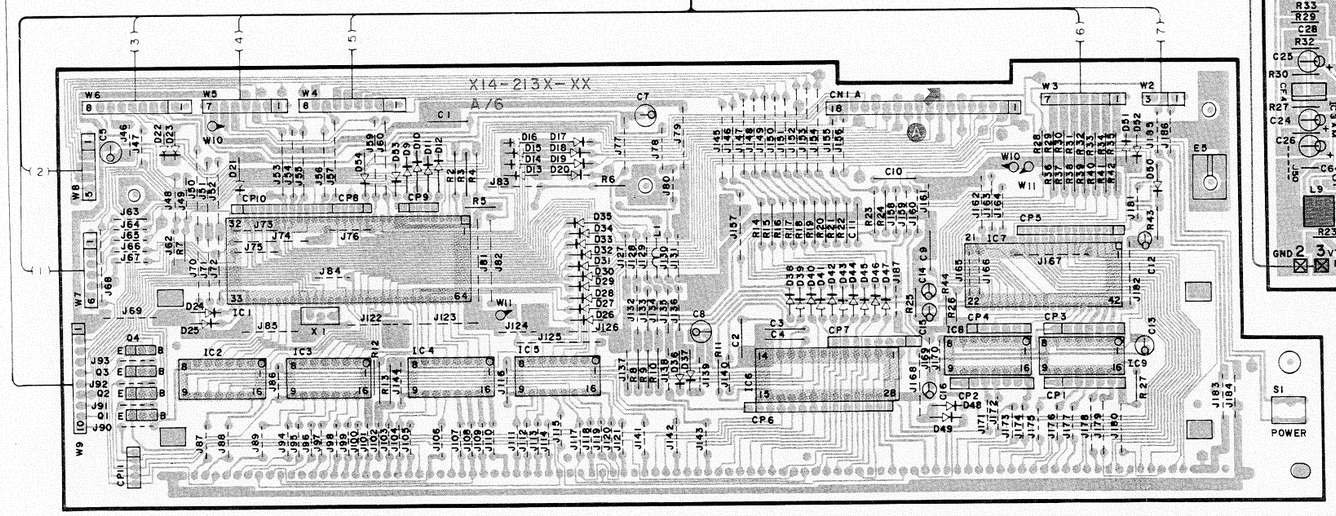
Oscilloscope

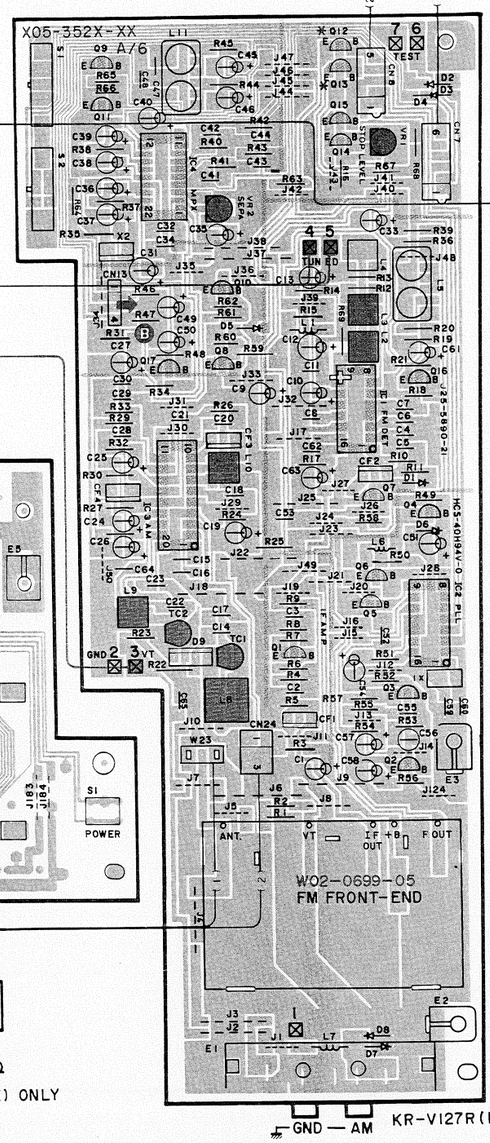
DC voltmeter

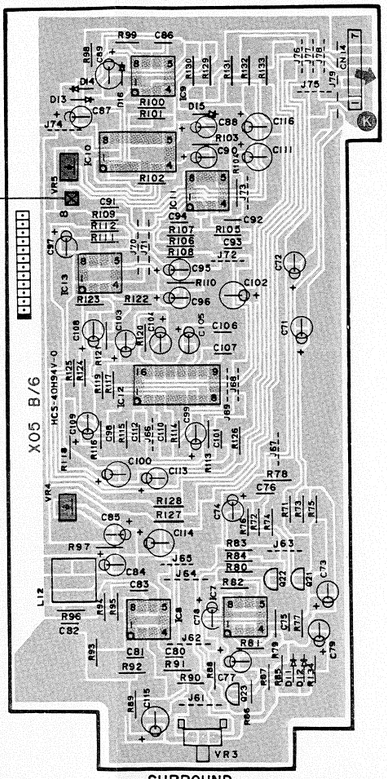
(a) DISCRIMINATOR (1) : 0V

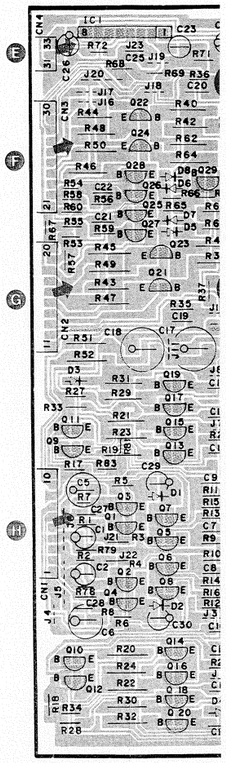
(b) BAND EDGE (1) : 1.5V
BAND EDGE (2) : 8.0V

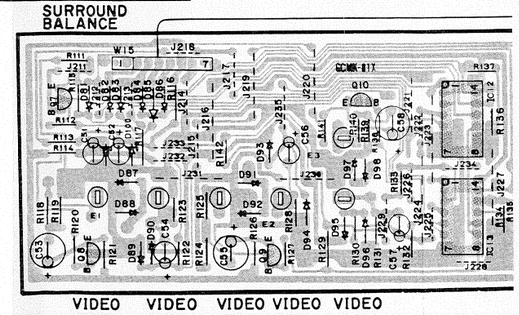
DC voltmeter

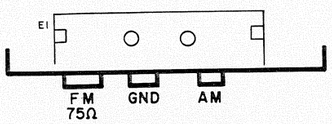




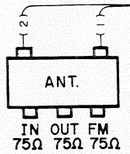






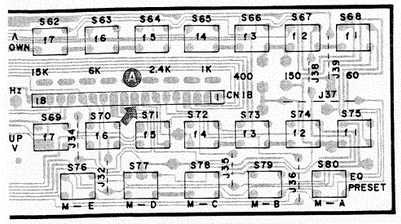


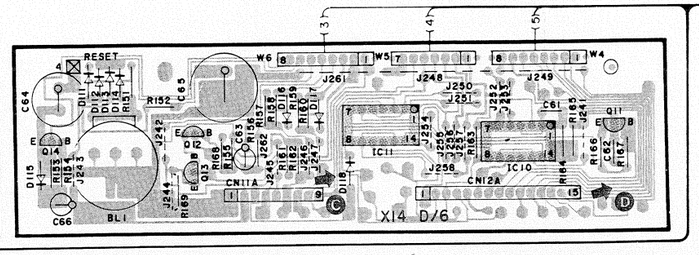
KR-V107R(K) ONLY

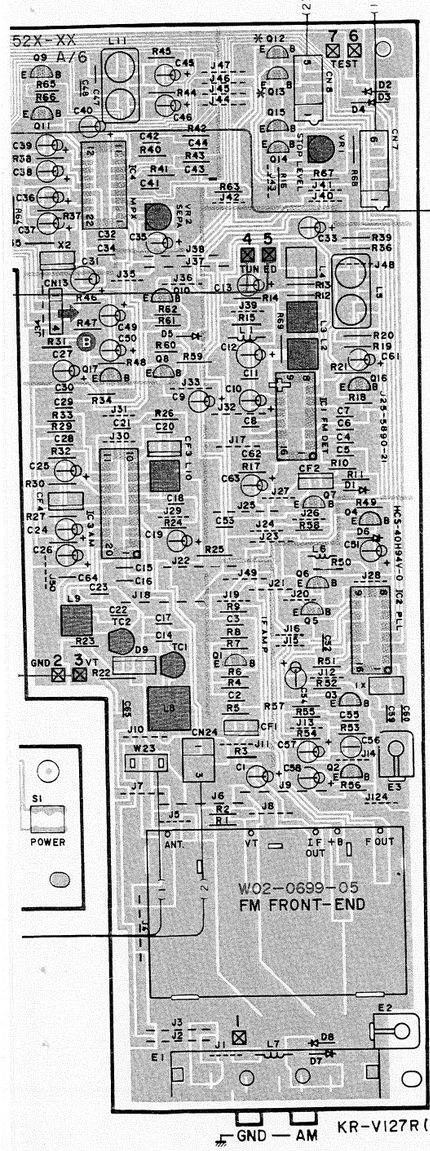


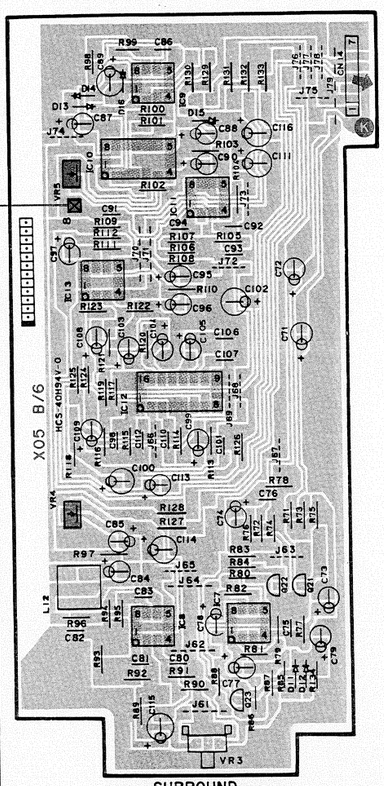
KR-V127R(K) ONLY

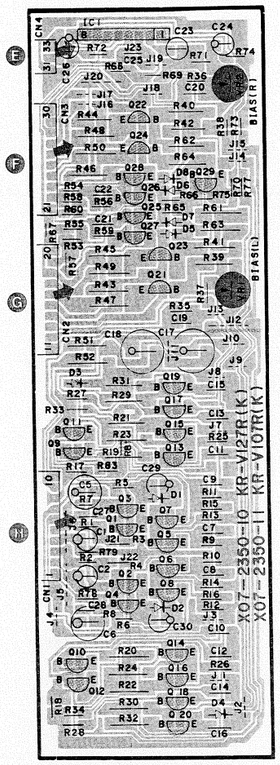
GND — AM KR-V127R(K) ONLY

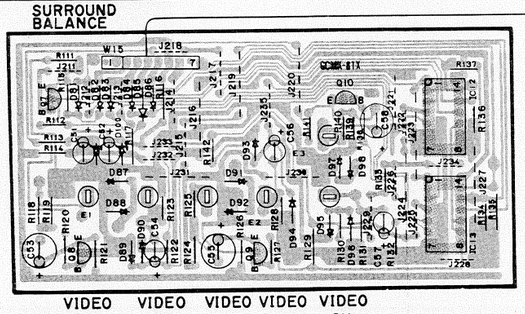

S62 S63 S64 S65 S66 S67 S68
S69 S70 S71 S72 S73 S74 S75
S76 S77 S78 S79 S80
EQ PRESET
M-E M-D M-C M-B M-A
CN18

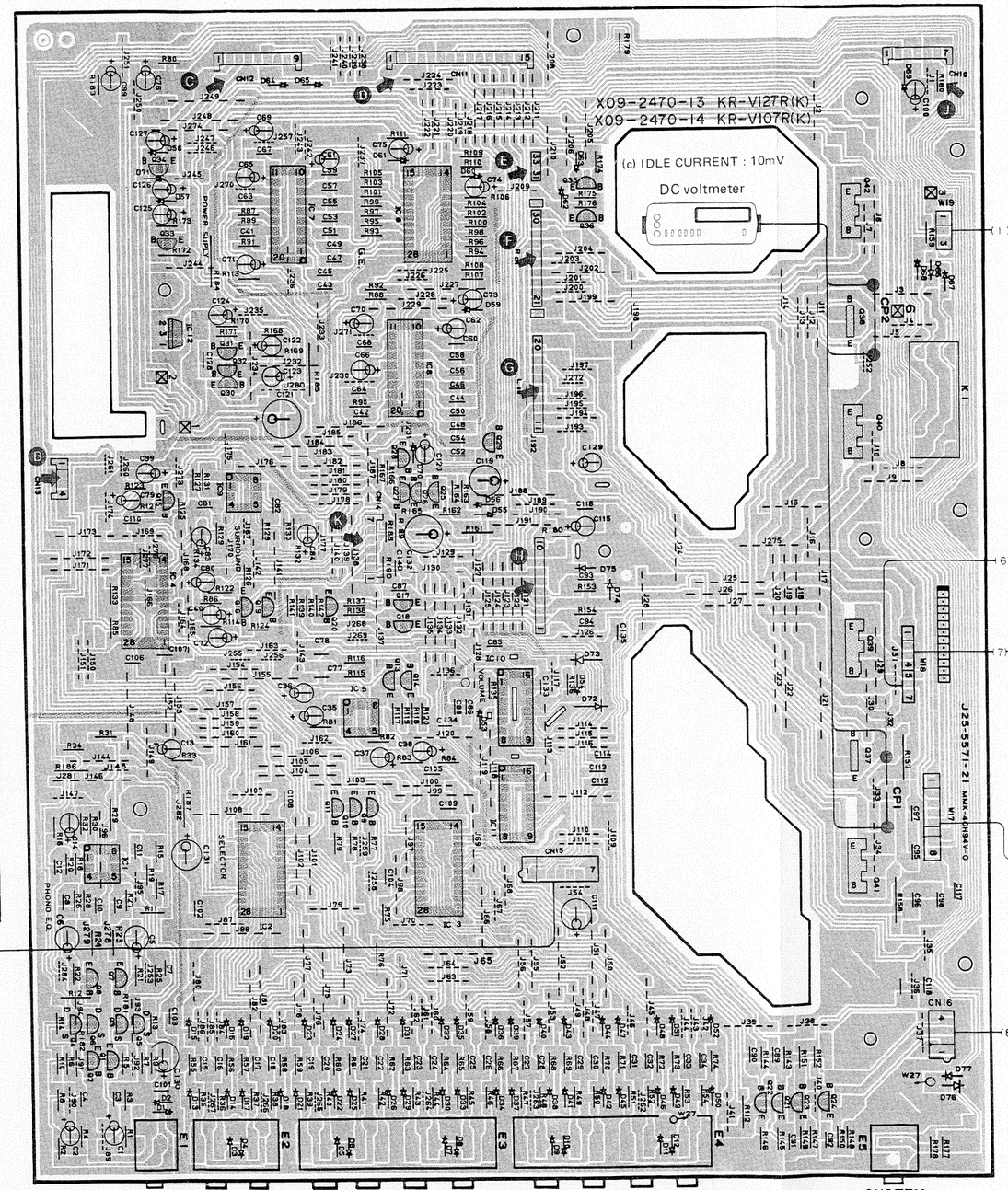

RESET
W6 W5 W4
J261 J248 J250 J251 J249 J252 J253
IC11 IC10
CN11A CN12A
X14 D/6
BLI

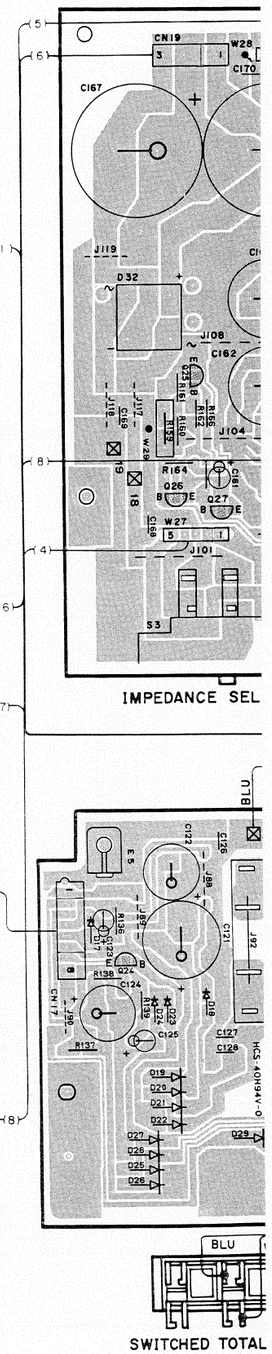

52X-XX
X09 A/6
W02-0699-05
FM FRONT-END
ANT.
VT
IF+B OUT
F OUT
POWER
S1
GND 2 3VT
GND — AM
KR-V127R(K) ONLY

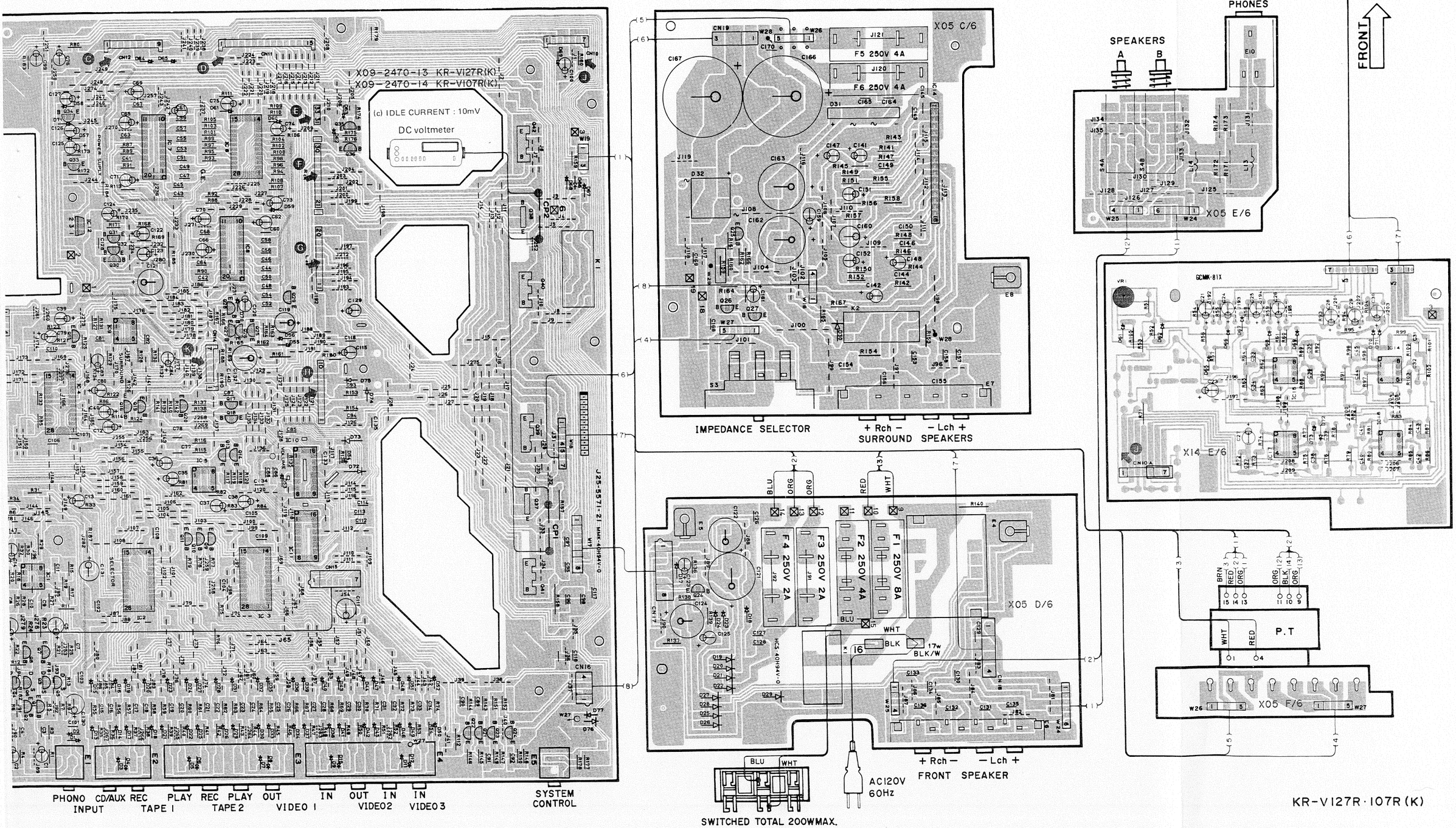

X05 B/6
HCS-40H94Y-0
SURROUND BALANCE
VR3


X07-2350-10 KR-V127R(K)
X07-2350-11 KR-V107R(K)
BIAS(R)
BIAS(L)


VIDEO OUT
VIDEO IN
VIDEO OUT
VIDEO IN
VIDEO IN


X09-2470-13 KR-V127R(K)
X09-2470-14 KR-V107R(K)
(c) IDLE CURRENT : 10mV
DC voltmeter
PHONO INPUT
CD/AUX
REC TAPE 1
PLAY
REC TAPE 2
PLAY
OUT VIDEO 1
IN
OUT VIDEO2
IN
IN VIDEO 3
SYSTEM CONTROL

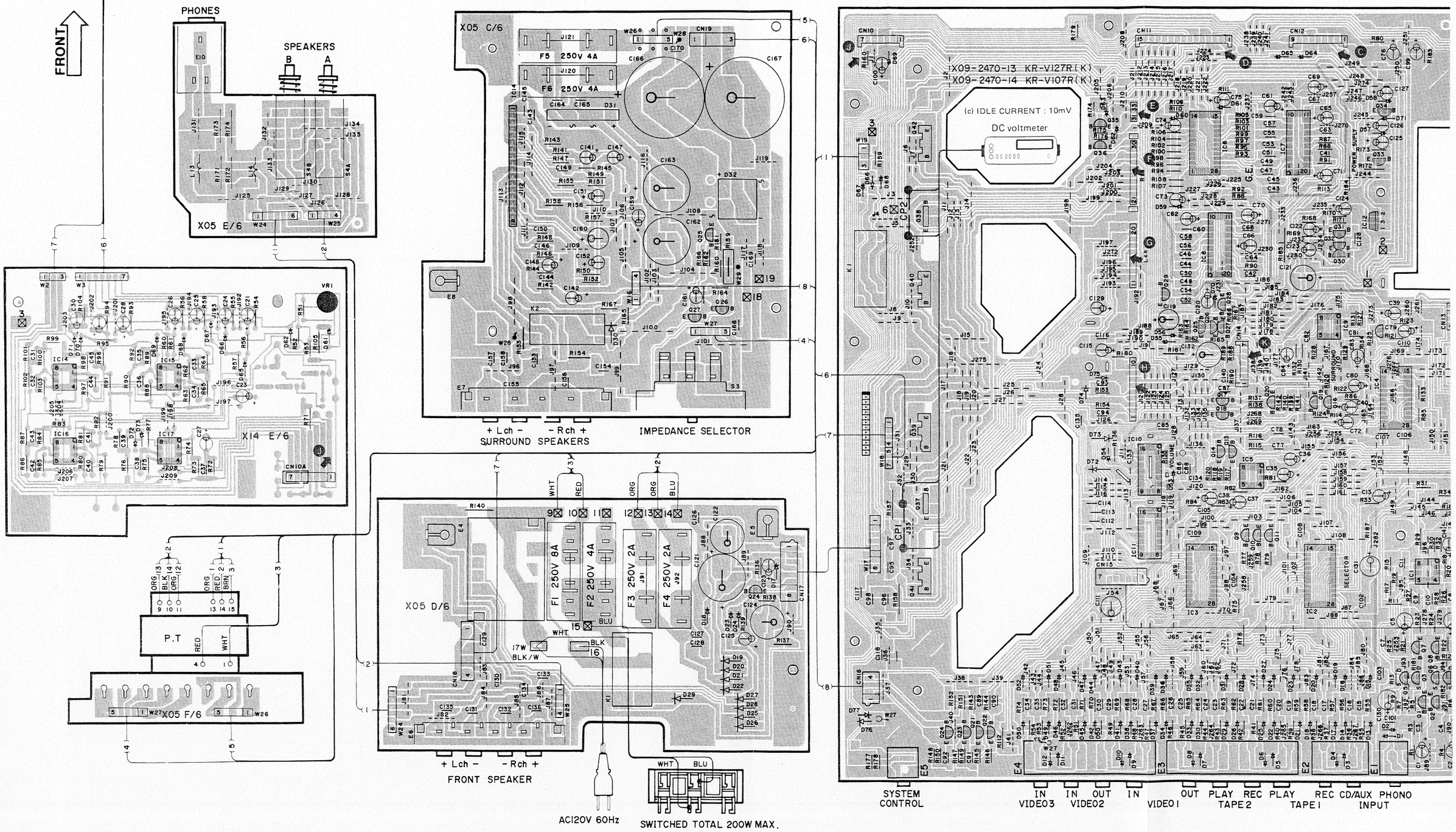

IMPEDANCE SEL
J25-5571-21
SWITCHED TOTAL
BLU

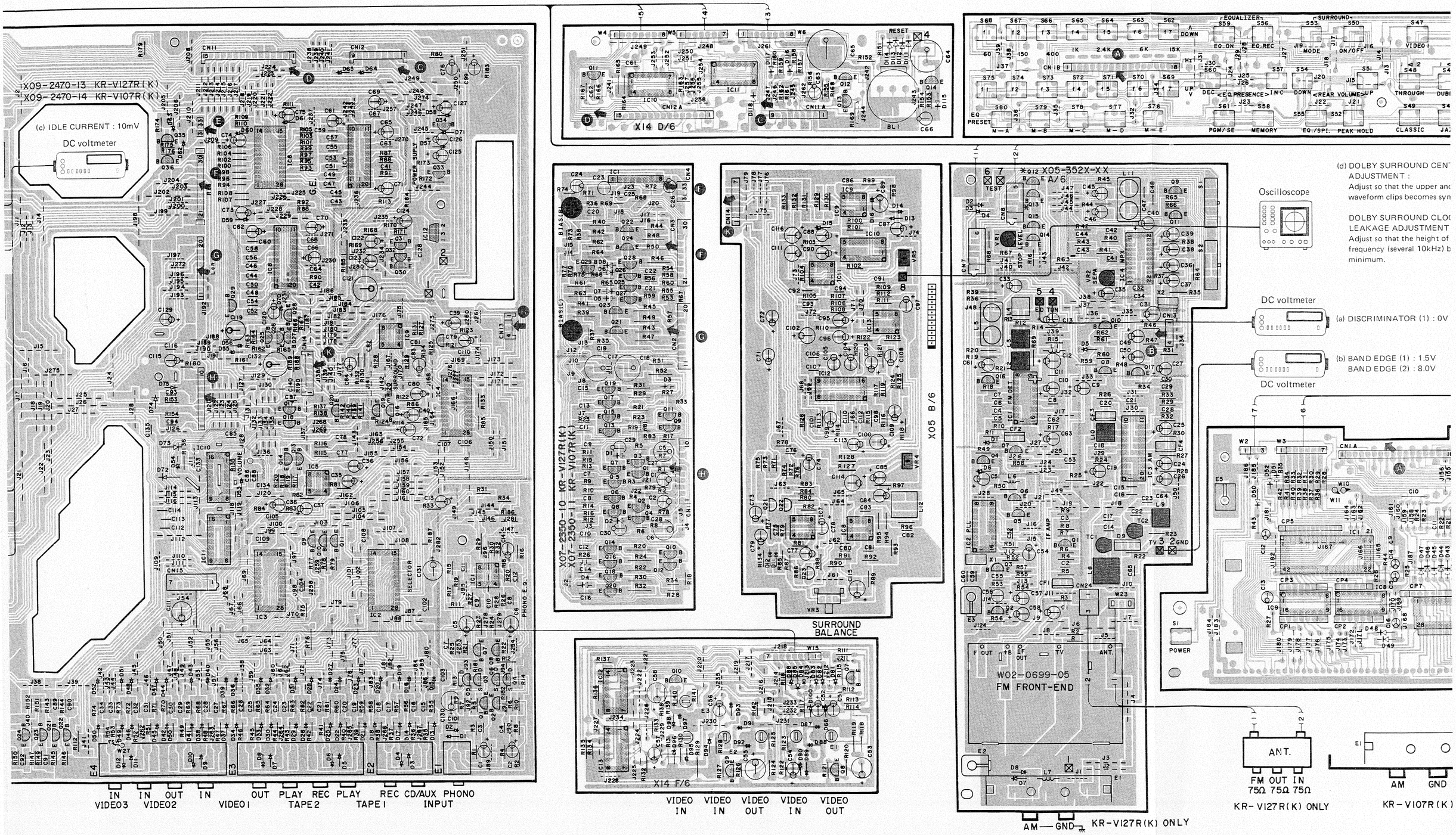


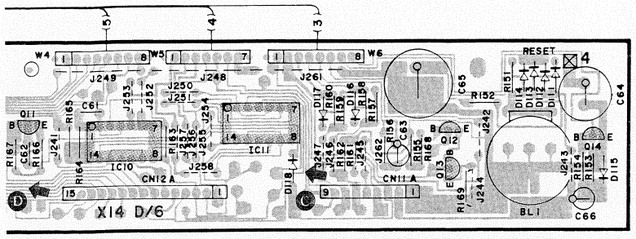
KR-V127R·107R(K)

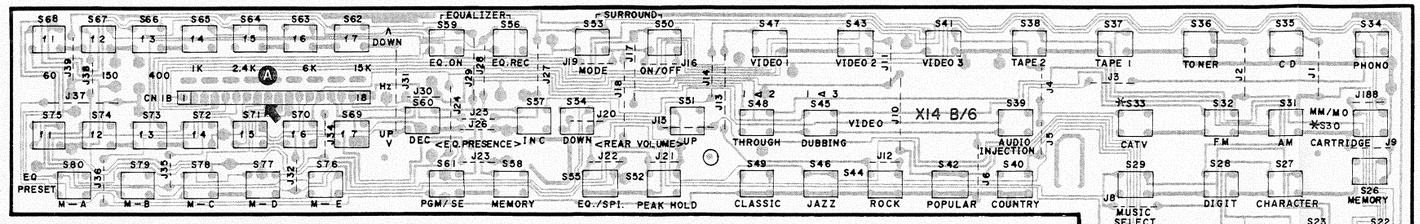
Refer to the schematic diagram for the values of resistors and capacitors.

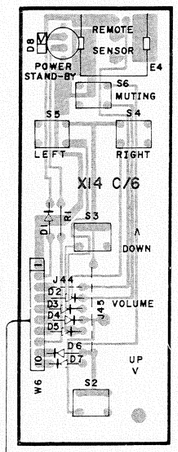
PC BOARD (FOIL SIDE VIEW)

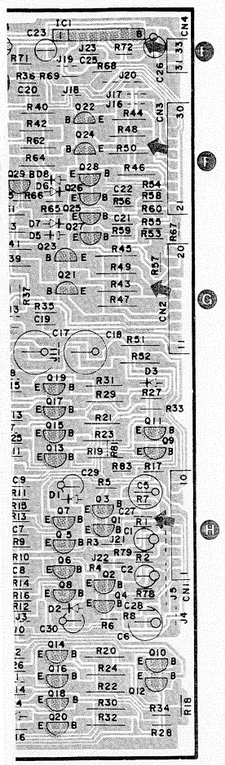


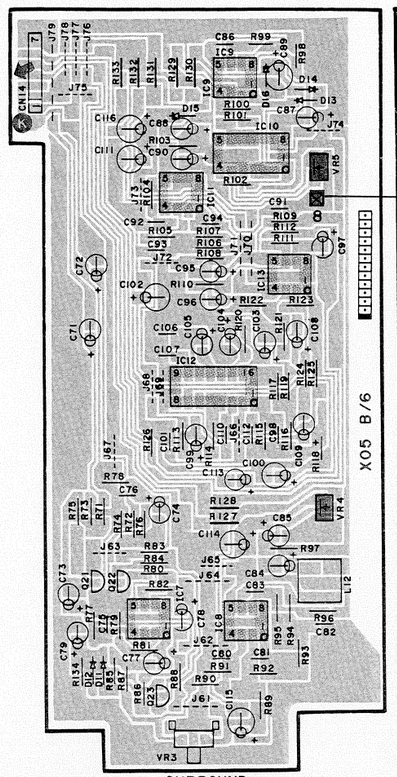

XO9-2470-13 KR-V127R(K)
XO9-2470-14 KR-V107R(K)
(c) IDLE CURRENT : 10mV
DC voltmeter
X14 D/6
X05 B/6
X14 F/6
XO7-2350-10 KR-V127R(K)
XO7-2350-11 KR-V107R(K)
SURROUND BALANCE
XO5-352X-XX
A/6
W02-0699-05
FM FRONT-END
Oscilloscope
(d) DOLBY SURROUND CENT
ADJUSTMENT :
Adjust so that the upper and
waveform clips becomes syn
DOLBY SURROUND CLOC
LEAKAGE ADJUSTMENT
Adjust so that the height of
frequency (several 10kHz) b
minimum.
DC voltmeter
(a) DISCRIMINATOR (1) : 0V
(b) BAND EDGE (1) : 1.5V
BAND EDGE (2) : 8.0V
DC voltmeter
IN VIDEO3
IN VIDEO2
OUT IN VIDEO1
OUT PLAY TAPE2
REC PLAY TAPE1
REC CD/AUX
PHONO INPUT
VIDEO IN
VIDEO IN
VIDEO OUT
VIDEO IN
VIDEO OUT
AM — GND KR-V127R(K) ONLY
ANT.
FM OUT IN
75Ω 75Ω
KR-V127R(K) ONLY
AM GND
KR-V107R(K)

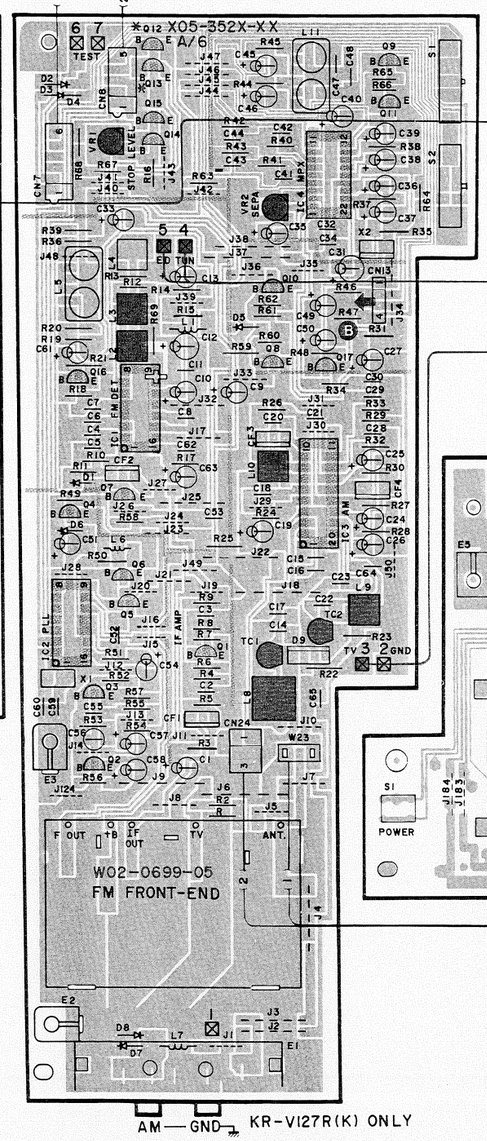












Oscilloscope

(d) DOLBY SURROUND CENTER ADJUSTMENT :
Adjust so that the upper and lower waveform clips becomes symmetrical.

DOLBY SURROUND CLOCK LEAKAGE ADJUSTMENT :
Adjust so that the height of the clock frequency (several 10kHz) becomes minimum.

DC voltmeter

(a) DISCRIMINATOR (1) : 0V

(b) BAND EDGE (1) : 1.5V
BAND EDGE (2) : 8.0V

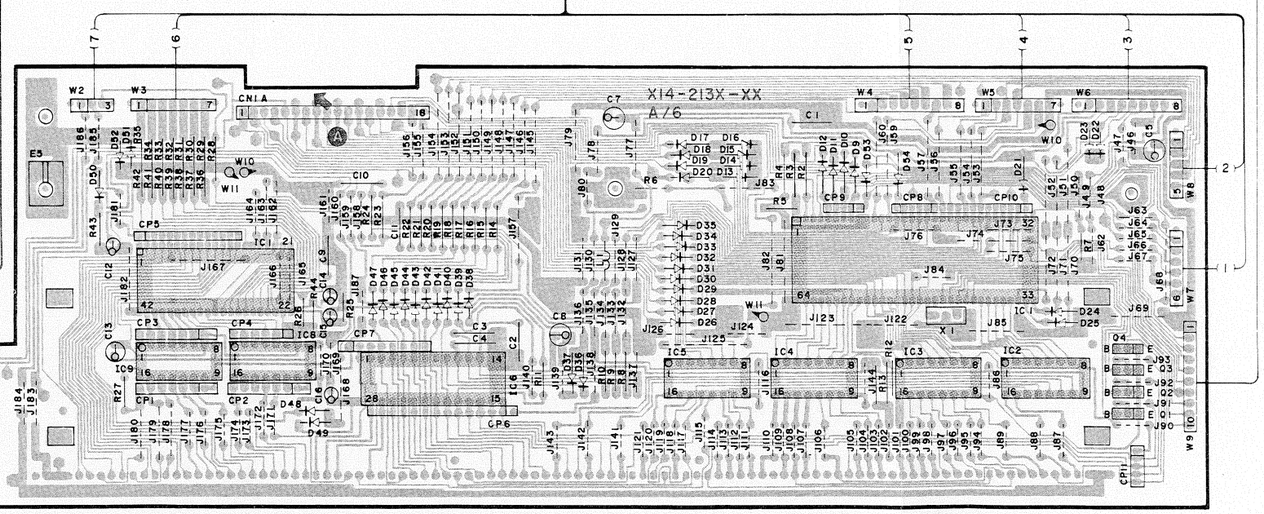
DC voltmeter

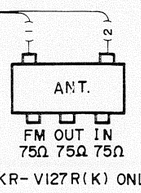
X05-352X-XX A/6

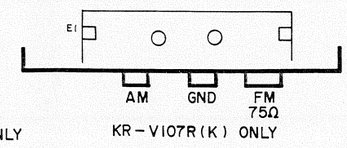
DESTINATION \ Ref. NO	Q12	Q13
KR-V127R(K)	YES	YES
KR-V107R(K)	NO	NO

X14-213X-XX B/6

DESTINATION \ Ref. NO	S30	S33
KR-V127R(K)	YES	YES
KR-V107R(K)	NO	NO







KR-V127R·V107R(K)

Refer to the schematic diagram for the values of resistors and capacitors.

X05-352X-XX

IC1

1~3	3.0V	12	4.6V
4, 5	0V	13	1.3V
6	6.1V	14	0V
7~10	6.2V	15	0.42V
11	13.4V	16	0.47V

IC2

1	1.0V	11	2.7V
2	1.5V	12,13	5.0V
6, 7	0V	14	0V
8	14.0V	15	1.1V
9	0.12V	16	0V
10	0V		

IC3

1	0.1V	11	0.7V
2	0.5V	12	0V
3	0.9V	13	2.0V
4	0V	14	12.4V
5	1.4V	15	1.6V
6	1.1V	16	0V
7, 8	1.4V	17	3.8V
9	2.7V	18, 19	1.3V
10	10.2V	20	0V

IC4

1~4	3.2V	14	4.9V
5	3.1V	15	0V
6, 7	3.2V	16	1.5V
8	3.1V	17	2.8V
9	3.2V	18	2.6V
10	0V	19, 20	2.7V
11	0.4V	21	3.4V
12	0V	22	13.5V
13	4.7V		

IC9

1	5.4V	5	−0.9V
2	0.5V	6, 7	−0.5V
3	−6.6V	8	−5.8V
4	−0.5V		

IC10

1	6.7V	6	−0.5V
2	−0.5V	7	0V
3, 4	−0.2V	8	−5.8V
5	−6.6V		

IC12

1~7	6.8V	13	1.2V
8	1V	14, 15	6.8V
9	0V	16	14V
10~12	6.8V		

IC14

3	0V	14	−22V
6	0V	16	0V
9	−22V		

	B	C	E
Q4	6.0V	14.1V	5.4V
Q5	0.12V	13.9V	1.4V
Q6	14.0V	1.4V	14.1V
Q7	13.9V	0V	–
Q8	4.6V	–	–
Q9	3.0V	–	–
Q10	0V	4.7V	–
Q14	0V	0.2V	–
Q15	3.9V	0V	–
Q17	14.9V	15.0V	14.1V

X14-213X-XX

IC1

32	5V	45	5V

IC2~5

8	−30V	9	5V

IC8, 9

8	5V	9	−30V

IC12

1	2.9V	10, 11	3.3V
2, 3	3.6V	12	4.3V
4	2.9V	13	0V
5~9	0V	14	5.6V

IC13

1	2.9V	7	0V
2, 3	3.3V	8~10	3.3V
4	2.9V	11	3.6V
5	0V	12, 13	0V
6	3.9V	14	5.6V

IC14~16

1~3	0.4V	5~7	0.4V
4	−1.51V	8	6.8V

IC17

1	−0.2V	4	−15.1V
2	−0.3V	5~7	0.4V
3	−0.4V	8	15.0V

	B	C	E
Q1~4	–	–	5V
Q7	–	4.3V	–

X07-2350-11

IC1

6	0.7V

	B	C	E
Q3, 4	−2.0V	–	–
Q15, 16	–	1.1V	–
Q19, 20	–	−1.1V	–
Q21, 22	–	54V	0.6V
Q23, 24	–	−5.4V	−0.6V
Q25~28	–	–	0V
Q29	–	–	54V

X09-2470-14

IC1

2, 3	11.6V	5, 6	11.6V

IC2~4

1	−13.2V	28	5V

IC5

1~3	0.03V	5~7	0.03V
4	−13.2V	8	15V

IC6

1	6.8V	15	5V
11~14	−6.8V		

IC7, 8

18	15V	20	−13.2V

IC9

1~3	−2.4V	5~7	−2.4V
4	−13.2V	18	15V

IC10

4, 5	−13.2V	12	3.2V
8	−13.2V	13	15V

IC11

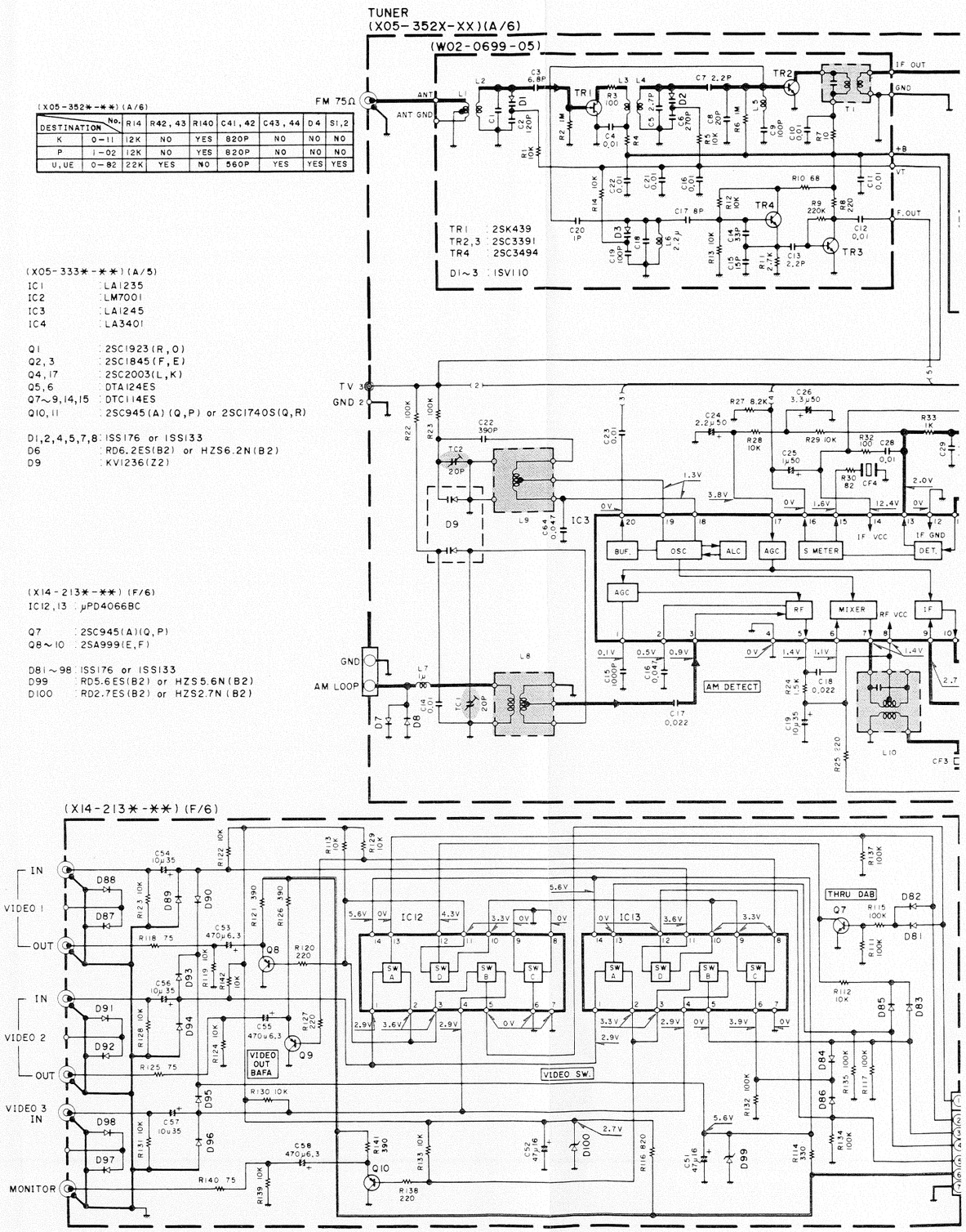
7	−8.5V	12	3.2V
8	−13.2V	13	15V

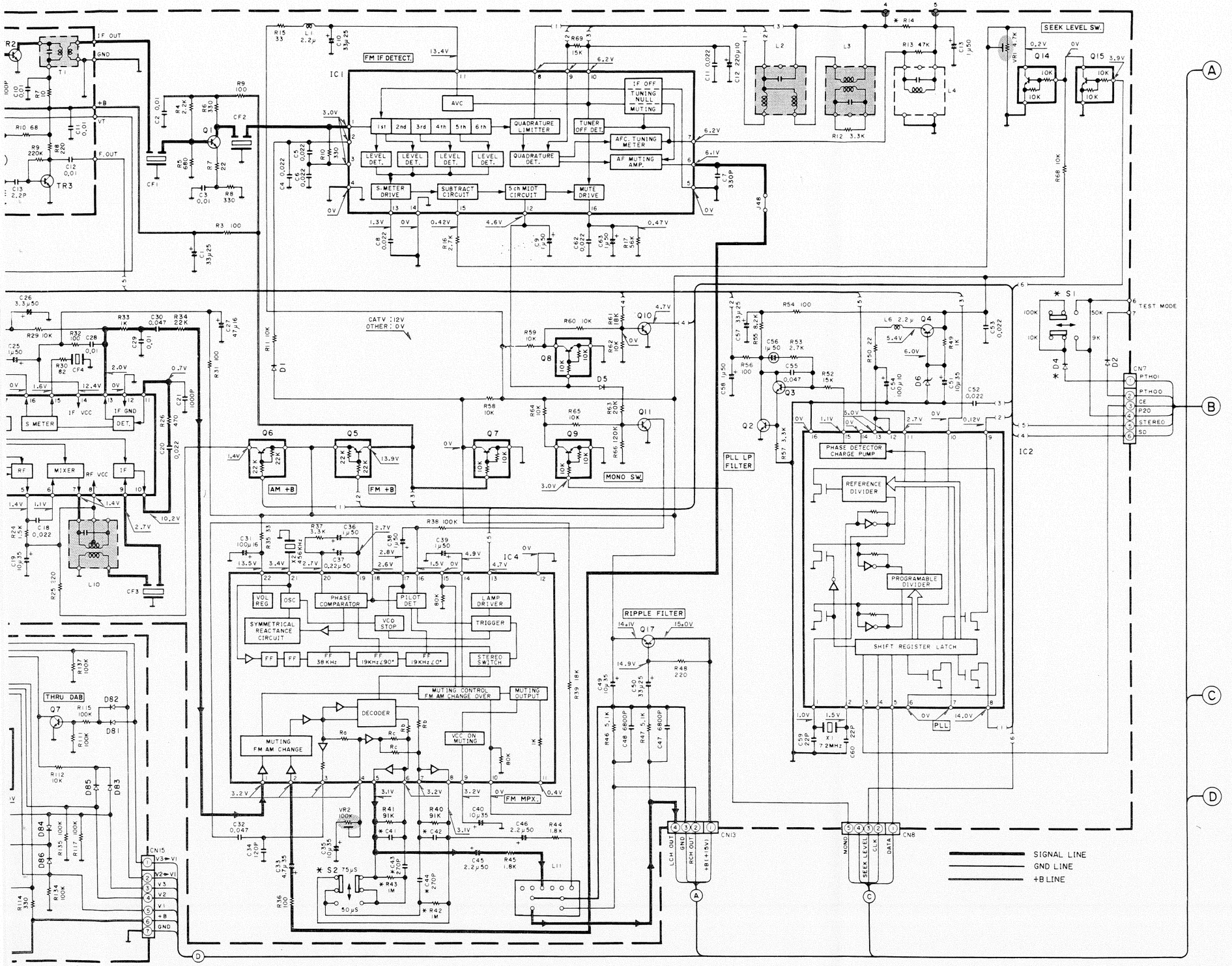
IC12

1	21V	2	15V

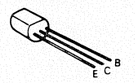
	G	S	D
Q3~6	–	0.3V	11.6V

	B	C	E
Q13, 14	−2.3V	15V	–
Q15, 16	–	15V	−2.4V
Q20	–	–	15V
Q21, 22	–	15V	–
Q25, 26	–	−45V (−62V)	−33V
Q27	–	−32V	−33V
Q30	–	−13.2V	−13.2V
Q32	–	–	−13.2V
Q33	–	10.7V	5.6V
Q34	–	13V	5.6V

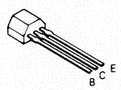




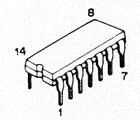
2SA999
2SC945(A)
2SC1845
2SC1923
2SC2003



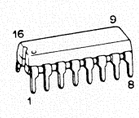
DTA124ES
DTC114ES
2SC1740S



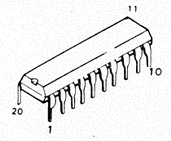
μPD4066BC



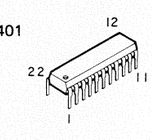
LA1235
LM7001



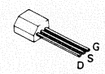
LA1245



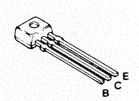
LA3401



2SK439



2SC3391
2SC3494



- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.
- Les tensions c.c. doivent être measurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.
- Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen. Voltmeter gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen instrumenten oder Geräten u.U. geringfügig.

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

KR-V107R(K) (1/3)

KR-V107R

KENWOOD

(X09-2470-14)

Q9,10,17,18,23,24	: 2SC2878	Q29,35	: 2SA992(F,E)
Q3~6	: 2SK163(L,M)	Q30,33,34	: 2SD1266(Q,P)
Q11,20,28,31,32	: 2SA733(A)(Q,P)	Q36	: 2SC2003(L,K)
Q13,14,19	: 2SC945(A),(Q,P)	Q37,38	: 2SC3419(Y)
Q15,16,21,22	: 2SC1845(F,E)	Q39,40	: 2SD1718※5
Q25,26	: 2SB941(Q,P)	Q41,42	: 2SB1163※5
Q27	: 2SD1929		

D1~52,58,76,77	: ISS176 or ISS133	D69	: RD4.7ES(B)
D53,61,70	: RD5.1ES(B2) or HZS5.1N(B2)		
D54	: RD3.3ES(B2) or HZS3.3N(B2)		
D55,56	: RD18ES(B)		
D57,64,65,71	: RD6.2ES(B2) or HZS6.2N(B2)		
D59,60	: RD6.8ES(B2) or HZS6.8N(B2)		
D62,63,66~68	: ISS178 or ISS131		

IC1,5,9	: NJM4558D-A or M5218P-A
IC2	: TC9164N
IC3	: TC9163N
IC4	: TC9162N
IC6	: LC7522
IC7,8	: M5229P
IC10,11	: CXD1120P-1
IC12	: μPC78M15H

SYNCRO (X05)(C/6)

No.	S3
K	YES
P	NO
U,UE	YES

SIGNAL LINE
GND LINE
+B LINE
−B LINE

2SA733(A)
2SA992
2SA1123
2SC945(A)
2SC1845
2SC2003

2SC2631
2SC2878
2SD1929

2SD1266

2SB1163※5
2SD1718※5

2SA933S
2SC1740S

2SC3419

2SA1535
2SB941
2SC3944

2SK163

STK4112/2

NJM4558D-A

CXD1120P-1

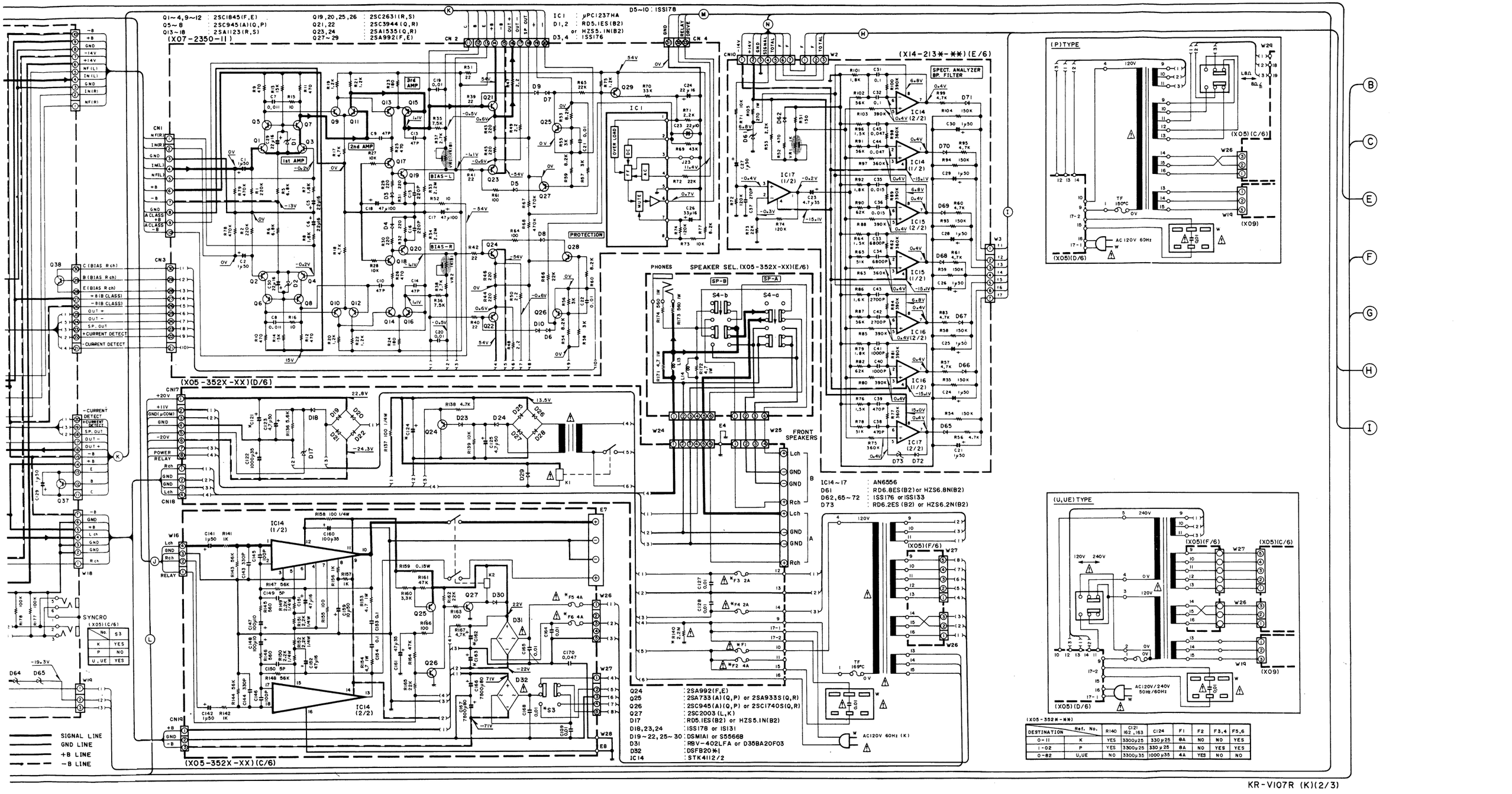
M5229P

AN6556
M5218P-A

μPC1237HA

LC7522

μPC78M15H
OUTPUT
GND
INPUT (Case)



KR-V107R (K)(2/3)

μPC78M15H

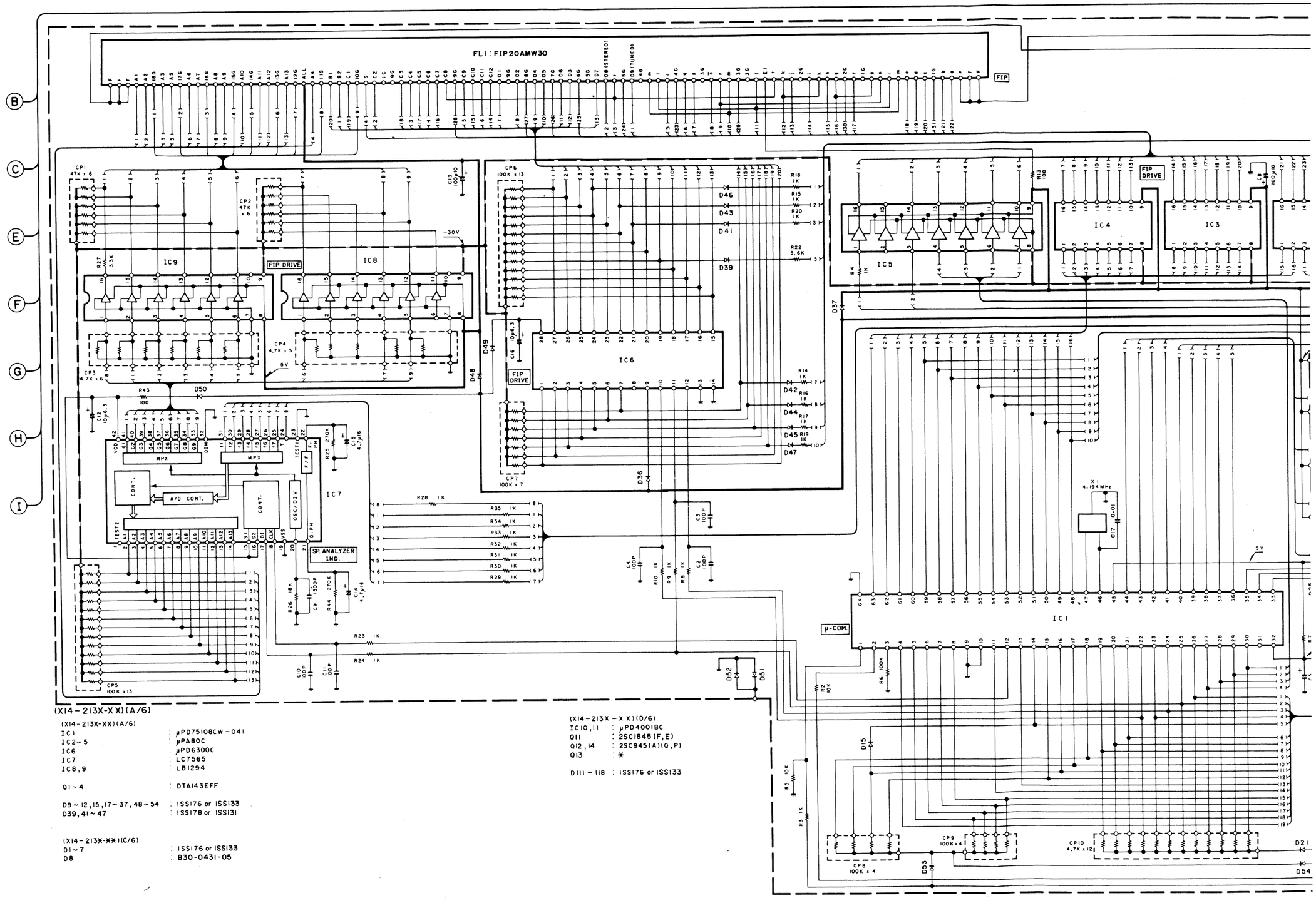
TC9162N
TC9163N
TC9164N

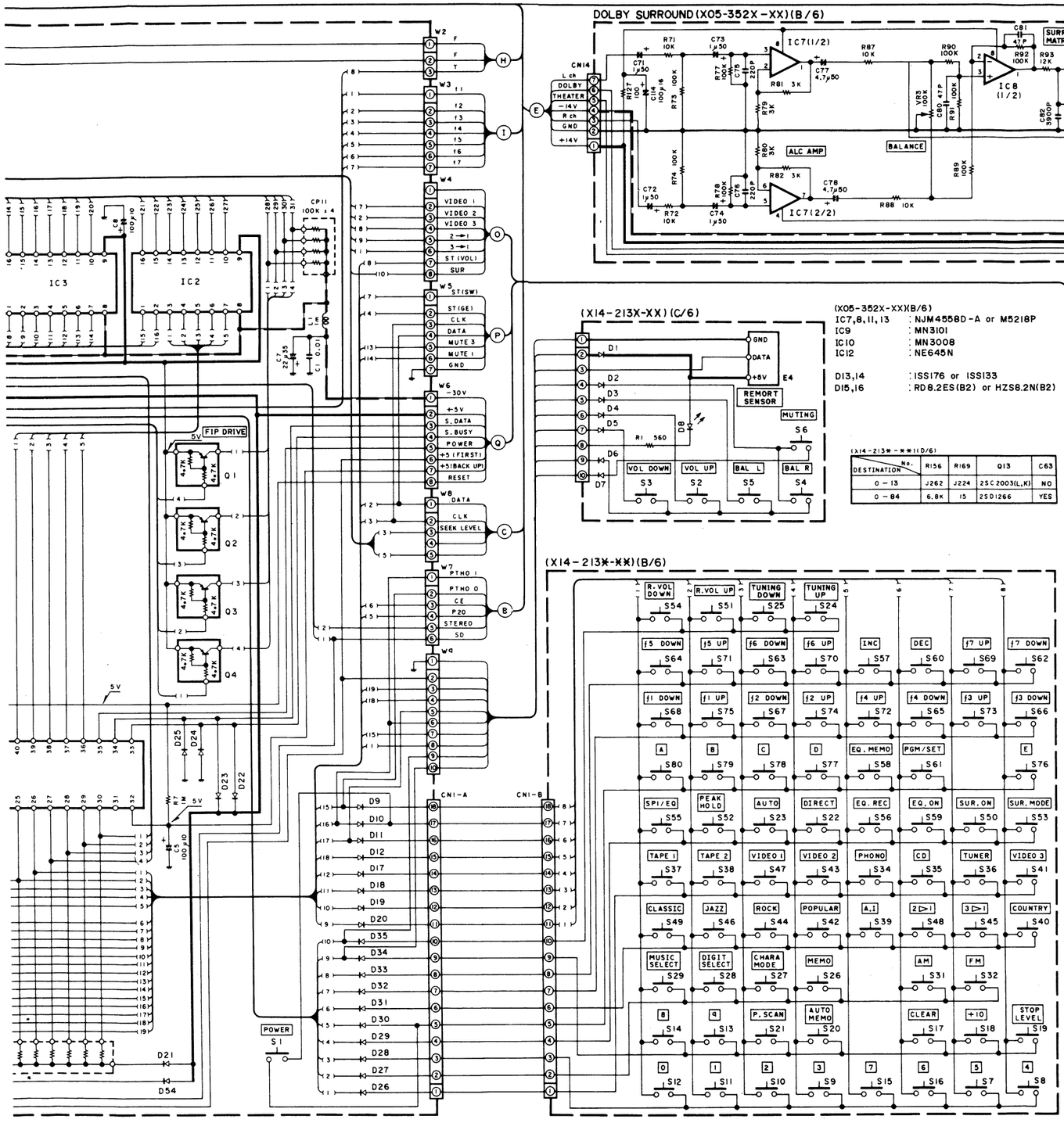
- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.
- Les tensions c.c. doivent être measurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.
- Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen. Voltmeter gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen instrumenten oder Geräten u.U. geringfügig.

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

KR-V107R

KENWOOD


FL1 : FIP20AMW30
FIP
FIP DRIVE
IC1
IC2~5 : μPA80C
IC6 : μPD6300C
IC7 : LC7565
IC8,9 : LB1294
Q1~4 : DTA143EFF
D9~12,15,17~37,48~54 : ISS176 or ISS133
D39,41~47 : ISS178 or ISS131
(X14-213X-XX)(A/6)
(X14-213X-**)(C/6)
D1~7 : ISS176 or ISS133
D8 : B30-0431-05
(X14-213X-XX)(D/6)
IC10,11 : μPD4001BC
Q11 : 2SC1845(F,E)
Q12,14 : 2SC945(A)(Q,P)
Q13 : *
D111~118 : ISS176 or ISS133
2SC945(A)
2SC1845
2SC2003
2SD1266
DTA143EFF
NJM4558D-A
NE645N
MN3101
M5218P
μPD4001BC
LB1294
μPA80C
LC7565
MN3008
μPD6300C
μPD75108CW-041



μPD75108CW-041

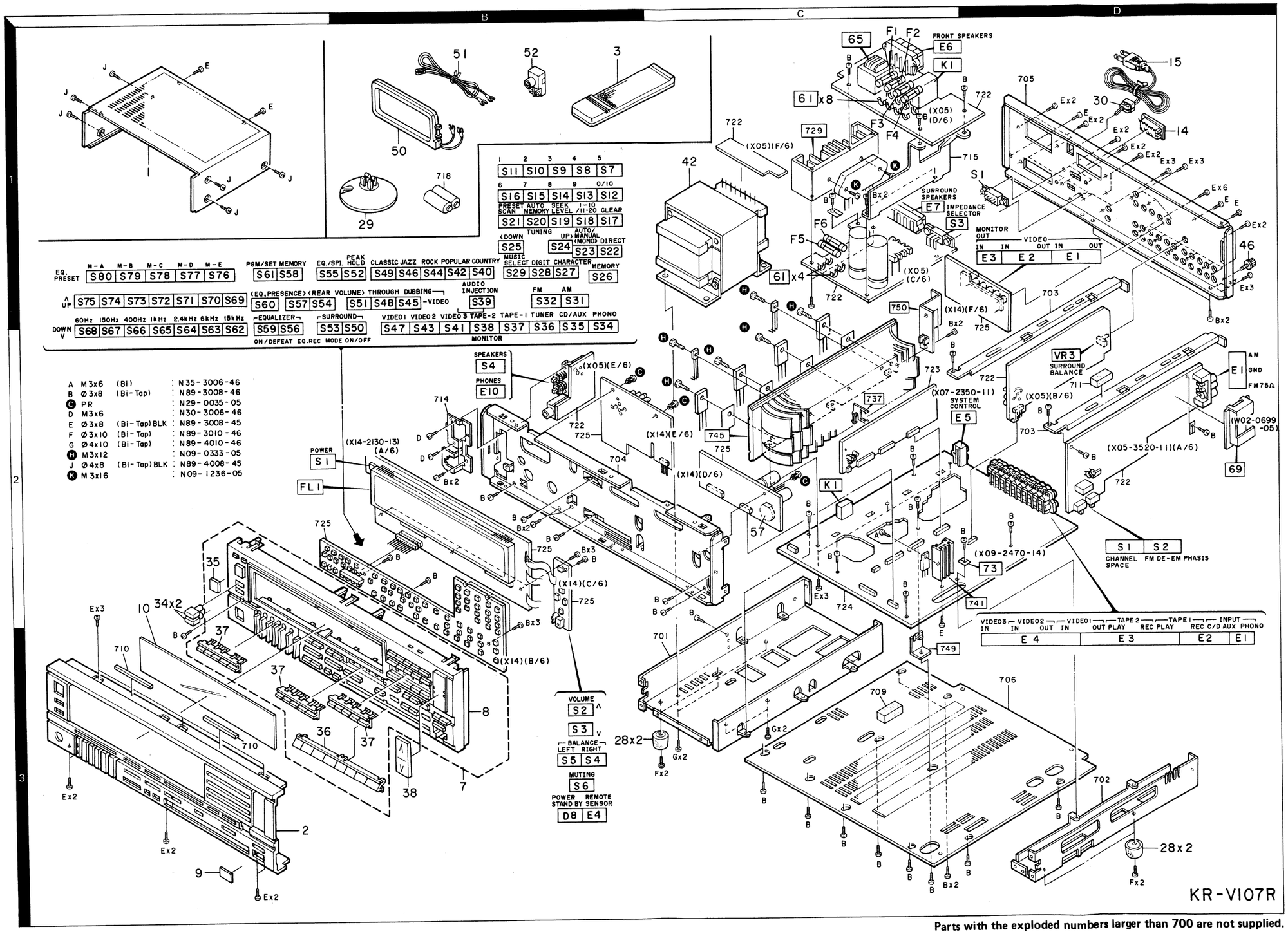
- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.
- Les tensions c.c. doivent être measurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.
- Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen. Voltmeter gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig.

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

KR-V107R

KENWOOD

EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
			KR-V107R			
1	1A		A01-1546-01	METALLIC CABINET		
2	3A	*	A20-5539-02	PANEL		
3	1B		A70-0206-05	REMOTE CONTROLLER ASSY	KUUE	
3	1B		A70-0207-05	REMOTE CONTROLLER ASSY	P	
7	3B	*	B01-0391-02	PANEL ESCUTCHEON ASSY		
8	3B	*	B01-0394-01	PANEL ESCUTCHEON		
9	3A		B03-2458-04	DRESSING PLATE (POWER,SENSOR)		
10	2A	*	B10-0946-03	FRONT GLASS (INDICATOR)		
-			B46-0092-03	WARRANTY CARD	K	
-			B46-0094-03	WARRANTY CARD	UUE	
-			B46-0095-03	WARRANTY CARD	UUE	
-			B46-0121-03	WARRANTY CARD	P	
-			B50-8923-00	INSTRUCTION MANUAL	KUUE	
-			B50-8924-00	INSTRUCTION MANUAL	P	
-			B58-0223-04	CAUTION CARD (PRE-SET 120V)	U	
-			B58-0513-04	CAUTION CARD (PRESET220-240)	UE	
-			B59-0092-00	SERVICE DIRECTORY	UUE	
⚠ C1			C91-0023-05	CERAMIC 0.01UF AC250V	UUE	
⚠ C1			C91-0647-05	CERAMIC 0.01UF P	KP	
⚠ 14	1D		E03-0086-05	AC OUTLET		
⚠ 15	1D		E30-0812-05	AC POWER CORD	UUE	
⚠ 15	1D		E30-2209-05	AC POWER CORD	KP	
-		*	H01-7866-04	ITEM CARTON CASE		
-		*	H10-3407-12	POLYSTYRENE FOAMED FIXTURE		
-			H10-3408-02	POLYSTYRENE FOAMED FIXTURE		
-			H11-0006-04	POLYSTYRENE FOAMED BOARD		
-			H12-1164-04	PACKING FIXTURE		
-			H13-0008-04	CARTON BOARD		
-			H25-0181-04	PROTECTION BAG (150X260X0.05)		
-			H25-0224-04	PROTECTION BAG (800X400X0.03)		
-			H25-0232-04	PROTECTION BAG (235X350X0.03)		
28	3B,3D		J02-0126-05	FOOT		
29	1B		J19-2815-04	ANTENNA HOLDER		
⚠ 30	1D		J42-0083-05	POWER CORD BUSHING		
-			J61-0307-05	WIRE BAND		
34	2A		K27-1644-04	KNOB (BUTTON) SPEAKERS		
35	2A		K29-2333-04	KNOB (POWER)		
36	3B		K29-3206-03	KNOB (VIDEO,TAPE,TUN,EXT)		
37	3A,3B		K29-2668-04	KNOB (A-E,MUSIC,LEVEL)		
38	3B		K29-3207-04	KNOB (VOLUME)		
⚠ 42	1C	*	L01-5251-05	POWER TRANSFORMER	K	
⚠ 42	1C	*	L01-5255-05	POWER TRANSFORMER	UUE	
⚠ 42	1C	*	L01-5257-05	POWER TRANSFORMER	P	
46	1D		N08-0128-35	BINDING POST (GND)		
C	2B,2C		N29-0035-05	PUSH RIVET (3.5X5.5)		
⚠ S1	1D		S31-2126-05	SLIDE SWITCH (POWER TYPE)	UUE	
⚠ S1	1D		S31-2127-05	SLIDE SWITCH (POWER TYPE)	P	
50	1B		T90-0104-25	LOOP ANTENNA		
51	1B		T90-0121-05	T TYPE ANTENNA		
52	1B		T90-0136-05	ANTENNA ADAPTOR		

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-			M50461-057SP	IC(REMOTE CONTROLLER)		
57	2C		W09-0031-05	BATTERY		
			TUNER UNIT (X05-352X-XX) 0-11 : K 1-02 : P 0-82 : U, UE			
C1			CE04LW1E330M	ELECTRO 33UF 25WV		
C2 ,3			CK45FF1H103Z	CERAMIC 0.010UF Z		
C4 -6			CK45FF1H223Z	CERAMIC 0.022UF Z		
C7			CC45FSL1H331J	CERAMIC 330PF J		
C8			CK45FF1H223Z	CERAMIC 0.022UF Z		
C9			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C10			CE04LW1E330M	ELECTRO 33UF 25WV		
C11			CK45FF1H223Z	CERAMIC 0.022UF Z		
C12			CE04LW1A221M	ELECTRO 220UF 10WV		
C13			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C14			CK45FF1H103Z	CERAMIC 0.010UF Z		
C15			CK45FB1H102K	CERAMIC 1000PF K		
C16			CK45FF1H473Z	CERAMIC 0.047UF Z		
C17 ,18			CK45FF1H223Z	CERAMIC 0.022UF Z		
C19			CE04LW1V100M	ELECTRO 10UF 35WV		
C20			CF92FV1H223J	MF 0.022UF J		
C21			CF92FV1H102J	MF 1000PF J		
C22			CC93FCH1H391J	CERAMIC 390PF J		
C23			CK45FF1H103Z	CERAMIC 0.010UF Z		
C24			CE04LW1H2R2M	ELECTRO 2.2UF 50WV		
C25			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C26			CE04LW1H3R3M	ELECTRO 3.3UF 50WV		
C27			CE04LW1C470M	ELECTRO 47UF 16WV		
C28 ,29			CF92FV1H103J	MF 0.010UF J		
C30			CF92FV1H473J	MF 0.047UF J		
C31			CE04LW1C101M	ELECTRO 100UF 16WV		
C32			CF92FV1H473J	MF 0.047UF J		
C33			CE04LW1V4R7M	ELECTRO 4.7UF 35WV		
C34			CC45FSL1H121J	CERAMIC 120PF J		
C35			CE04LW1V100M	ELECTRO 10UF 35WV		
C36			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C37			CE04LW1HR22M	ELECTRO 0.22UF 50WV		
C38 ,39			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C40			CE04LW1V100M	ELECTRO 10UF 35WV		
C41 ,42			CK45FB1H561K	CERAMIC 560PF K	UUE	
C41 ,42			CK45FB1H821K	CERAMIC 820PF K	KP	
C43 ,44			CC45FSL1H271J	CERAMIC 270PF J	UUE	
C45 ,46			CE04LW1H2R2M	ELECTRO 2.2UF 50WV		
C47 ,48			CF92FV1H682J	MF 6800PF J		
C49			CE04LW1V100M	ELECTRO 10UF 35WV		
C50			CE04LW1E330M	ELECTRO 33UF 25WV		
C51			CE04LW1V100M	ELECTRO 10UF 35WV		
C52 ,53			CK45FF1H223Z	CERAMIC 0.022UF Z		
C54			CE04LW1A101M	ELECTRO 100UF 10WV		
C55			CF92FV1H473J	MF 0.047UF J		
C56			C90-1349-05	NP-ELEC 1UF 50WV		
C57			CE04LW1E330M	ELECTRO 33UF 25WV		
C58			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C59 ,60			CC45FCH1H220J	CERAMIC 22PF J		
C62			CK45FF1H223Z	CERAMIC 0.022UF Z		

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C63			CE04LW1H010M	ELECTRO	1.0UF	50WV		
C64			CK45FF1H473Z	CERAMIC	0.047UF	Z		
C71 -74			CE04LW1H010M	ELECTRO	1.0UF	50WV		
C75 ,76			CC45FSL1H221J	CERAMIC	220PF	J		
C77 ,78			CE04LW1H4R7M	ELECTRO	4.7UF	50WV		
C80 ,81			CC45FSL1H470J	CERAMIC	47PF	J		
C82			CF92FV1H392J	MF	3900PF	J		
C83			CF92FV1H102J	MF	1000PF	J		
C84 ,85			CE04LW1H010M	ELECTRO	1.0UF	50WV		
C86			CC45FSL1H271J	CERAMIC	270PF	J		
C87			CE04LW1H4R7M	ELECTRO	4.7UF	50WV		
C88 ,89			CE04LW1A221M	ELECTRO	220UF	10WV		
C90			CE04LW1H010M	ELECTRO	1.0UF	50WV		
C91			CF92FV1H102J	MF	1000PF	J		
C92			CF92FV1H562J	MF	5600PF	J		
C93			CF92FV1H472J	MF	4700PF	J		
C94			CK45FB1H471K	CERAMIC	470PF	K		
C95			CE04LW1H010M	ELECTRO	1.0UF	50WV		
C96 ,97			CE04LW1V100M	ELECTRO	10UF	35WV		
C98			CF92FV1H472J	MF	4700PF	J		
C99			CE04LW1H010M	ELECTRO	1.0UF	50WV		
C100			CE04LW1C101M	ELECTRO	100UF	16WV		
C101			CF92FV1H273J	MF	0.027UF	J		
C102			CE04LW1C101M	ELECTRO	100UF	16WV		
C103			CE04LW1HR33M	ELECTRO	0.33UF	50WV		
C104			CE04LW1HOR1M	ELECTRO	0.1UF	50WV		
C105			CE04LW1V100M	ELECTRO	10UF	35WV		
C106			CF92FV1H103J	MF	0.010UF	J		
C107			CF92FV1H473J	MF	0.047UF	J		
C108,109			CE04LW1H010M	ELECTRO	1.0UF	50WV		
C110			CK45FB1H471K	CERAMIC	470PF	K		
C111			CE04LW1C101M	ELECTRO	100UF	16WV		
C112			CF92FV1H562J	MF	5600PF	J		
C113			CE04LW1V100M	ELECTRO	10UF	35WV		
C114-116			CE04LW1C101M	ELECTRO	100UF	16WV		
C121			CE04LW1E332M	ELECTRO	3300UF	25WV	KP	
C121		*	CE04LW1V332M	ELECTRO	3300UF	35WV	UUE	
C122			CE04LW1V102M	ELECTRO	1000UF	35WV		
C123			CE04LW1H4R7M	ELECTRO	4.7UF	50WV		
C124		*	CE04LW1E331M	ELECTRO	330UF	25WV	KP	
C124			CE04LW1V102M	ELECTRO	1000UF	35WV	UUE	
C125			CE04LW1H4R7M	ELECTRO	4.7UF	50WV		
C127,128			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C141,142			CE04LW1H010M	ELECTRO	1.0UF	50WV		
C143,144			CC45FSL1H331J	CERAMIC	330PF	J		
C145,146			CC45FSL1H101J	CERAMIC	100PF	J		
C147,148			CE04LW1A101M	ELECTRO	100UF	10WV		
C149,150			CC45FSL1H050C	CERAMIC	5.0PF	C		
C151,152			CE04LW1C470M	ELECTRO	47UF	16WV		
C153,154			CF92FV1H104J	MF	0.10UF	J		
C159			CE04LW1V100M	ELECTRO	10UF	35WV		
C160		*	CE04LW1V101M	ELECTRO	100UF	35WV		
C161		*	CE04LW1V470M	ELECTRO	47UF	35WV		
C162,163			CE04LW1E332M	ELECTRO	3300UF	25WV	KP	
C162,163		*	CE04LW1V332M	ELECTRO	3300UF	35WV	UUE	

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	C164,165			CK45FF1H103Z	CERAMIC 0.010UF Z		
	C166,167			C90-1318-05	ELECTRO 7500UF 80WV		
	C168,169			CK45FF1H103Z	CERAMIC 0.010UF Z		
	C170			CK45FF1H473Z	CERAMIC 0.047UF Z		
	TC1 ,2			C05-0303-05	CERAMIC TRIMMER CAPACITOR(20PF		
	E1	2D		E20-0318-05	SCREW TERMINAL BOARD(3P)AM,GND		
	E6	1D		E20-0823-05	LOCK TERMINAL BOARD(8P) SP		
	E7	1C		E20-0459-05	LOCK TERMINAL BOARD(4P) SURR		
	E10	2B		E11-0162-05	PHONE JACK (3P)		
⚠	F1			F05-7026-05	FUSE (UL) (250V 7A)	KP	
⚠	F1 ,2			F05-4022-05	FUSE (250V 4A)	UUE	
⚠	F3 ,4			F06-2027-05	FUSE (UL) (250V 2A)	P	
⚠	F5 ,6			F06-4024-05	FUSE (UL) (250V 4A)	KP	
	61	1C		J13-0041-05	FUSE CLIP		
⚠	65	1C		L01-7651-05	POWER TRANSFORMER	KP	
⚠	65	1C		L01-7658-05	POWER TRANSFORMER	UUE	
	CF1 ,2			L72-0531-05	CERAMIC FILTER		
	CF3			L72-0099-05	CERAMIC FILTER		
	CF4			L72-0096-05	CERAMIC FILTER		
	L1			L40-2292-17	SMALL FIXED INDUCTOR(2.2UH,M)		
	L2			L30-0464-05	FM IFT (DISCRIMINATOR)		
	L3			L30-0465-05	FM IFT (DISCRIMINATOR)		
	L4			L39-0128-05	PEAKING COIL		
	L6			L40-2292-17	SMALL FIXED INDUCTOR(2.2UH,M)		
	L7			L40-1092-17	SMALL FIXED INDUCTOR(1UH,M)		
	L8			L31-0509-05	MW-RF COIL (RF ALIGN MENT)		
	L9			L32-0277-15	MW OSCILLATING COIL(BAND EDGE		
	L10			L30-0362-05	AM IFT (IF TRANSFOMER)		
	L11			L79-0739-05	LC FILTER		
	L12			L79-0312-05	LC FILTER		
	L13 ,14			L39-0085-05	PHASE-COMPENSATION COIL		
	X1			L77-1122-05	CRYSTAL RESONATOR		
	X2			L78-0208-05	RESONATOR (456KHZ)		
	K	1C		N09-1236-05	TAPPING SCREW (3X16)		
	R3			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
	R15			RD14GB2E330J	FL-PROOF RD 33 J 1/4W		
	R31			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
	R35			RD14GB2E330J	FL-PROOF RD 33 J 1/4W		
	R50			RD14GB2E220J	FL-PROOF RD 22 J 1/4W		
	R127,128			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
	R129,130			RD14GB2E681J	FL-PROOF RD 680 J 1/4W		
	R131,132			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
	R133			RD14GB2E470J	FL-PROOF RD 47 J 1/4W		
	R137			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
⚠	R140			R92-0173-05	RC 2.2M M 1/2W	KP	
	R153,154			RS14KB3A4R7J	FL-PROOF RS 4.7 J 1W		
	R158			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
	R159			R92-0202-05	METAL-PLATE 0.1 K 5W		
	R171,172			RS14KB3A4R7J	FL-PROOF RS 4.7 J 1W		
	R173,174			RS14KB3A561J	FL-PROOF RS 560 J 1W		
	VR1			R12-1089-05	TRIMMING POT. (TUNING LEVEL)		
	VR2			R12-5058-05	TRIMMING POT. (SEPARATION)		
	VR3			R05-5012-05	POTENTIOMETER (BALANCE)		

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VR4 ,5			R12-3127-05	TRIMMING POT. (DOLBY SURROUND)		
⚠ K1	1C		S51-1036-05	MAGNETIC RELAY		
K2	1C		S51-2078-05	MAGNETIC RELAY		
S1 ,2	2D		S31-2094-05	SLIDE SWITCH (H,FM DE-EMP)	UUE	
S3			S31-2136-05	SLIDE SWITCH	KUUE	
S4			S42-2152-05	MULTIPLE PUSH SWITCH (SPEAKER)		
D1 ,2			1SS133	DIODE		
D1 ,2			1SS176	DIODE		
D4 ,5			1SS133	DIODE	UUE	
D4 ,5			1SS176	DIODE	UUE	
D5			1SS133	DIODE	KP	
D5			1SS176	DIODE	KP	
D6			HZS6.2N(B2)	ZENER DIODE		
D6			RD6.2ES(B2)	ZENER DIODE		
D7 ,8			1SS133	DIODE		
D7 ,8			1SS176	DIODE		
D9			KV1236(Z2)	VARIABLE CAPACITANCE DIODE		
D13 ,14			1SS133	DIODE		
D13 ,14			1SS176	DIODE		
D15 ,16			HZS8.2N(B2)	ZENER DIODE		
D15 ,16			RD8.2ES(B2)	ZENER DIODE		
D17			HZS5.1N(B2)	ZENER DIODE		
D17			RD5.1ES(B2)	ZENER DIODE		
D18			1SS131	DIODE		
D18			1SS178	DIODE		
D19 -22			DSM1A1	DIODE		
D19 -22			S5566B	DIODE		
D23 ,24			1SS131	DIODE		
D23 ,24			1SS178	DIODE		
D25 -30			DSM1A1	DIODE		
D25 -30			S5566B	DIODE		
D31			D3SBA20F03	DIODE		
D31			RBV-402LFA	DIODE		
D32			D5FB20*1	DIODE		
IC1			LA1235	IC(FM IF/DETECTION)		
IC2			LM7001	IC(PLL FREQUENCY SYNTHESIZER)		
IC3			LA1245	IC(AM)		
IC4			LA3401	IC(FM MPX)		
IC7 ,8			M5218P	IC(OP AMP X2)		
IC7 ,8			NJM4558D-A	IC(OP AMP X2)		
IC9			MN3101	IC(BBD CLOCK DRIVER)		
IC10			MN3008	IC(BBD)		
IC11			M5218P	IC(OP AMP X2)		
IC11			NJM4558D-A	IC(OP AMP X2)		
IC12			NE645N	IC(DOLBY B PROCESSOR)		
IC13			M5218P	IC(OP AMP X2)		
IC13			NJM4558D-A	IC(OP AMP X2)		
IC14			STK4112/2	IC(AF POWER AMP/ 10WX2)		
Q1			2SC1923(R,O)	TRANSISTOR		
Q2 ,3			2SC1845(F,E)	TRANSISTOR		
Q4			2SC2003(L,K)	TRANSISTOR		
Q5 ,6			DTA124ES	DIGITAL TRANSISTOR		
Q7 -9			DTC114ES	DIGITAL TRANSISTOR		
Q10 ,11			2SC1740S(Q,R)	TRANSISTOR		

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Q10 ,11			2SC945(A)(Q,P)	TRANSISTOR		
Q14 ,15			DTC114ES	DIGITAL TRANSISTOR		
Q17			2SC2003(L,K)	TRANSISTOR		
Q24			2SA992(F,E)	TRANSISTOR		
Q25			2SA733(A)(Q,P)	TRANSISTOR		
Q25			2SA933S(Q,R)	TRANSISTOR		
Q26			2SC1740S(Q,R)	TRANSISTOR		
Q26			2SC945(A)(Q,P)	TRANSISTOR		
Q27			2SC2003(L,K)	TRANSISTOR		
69	2D		W02-0699-05	FM FRONT-END ASSY		
POWER AMPLIFIER UNIT (X07-2350-11)						
C1 ,2			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C5 ,6			CE04LW1C220M	ELECTRO 22UF 16WV		
C7 ,8			CF92FV1H113J	MF 0.011UF J		
C9 ,10			CC45FSL1H470J	CERAMIC 47PF J		
C13 ,14			CC45FSL1H470J	CERAMIC 47PF J		
C15 ,16			CC45FSL1H221J	CERAMIC 220PF J		
C17 ,18			CE04LW2A470M	ELECTRO 47UF 100WV		
C19 -22			CK45FF1H103Z	CERAMIC 0.010UF Z		
C23			C90-1333-05	NP-ELEC 22UF 10WV		
C24			CE04LW1C220M	ELECTRO 22UF 16WV		
C26			CE04LW1C330M	ELECTRO 33UF 16WV		
C29 ,30			CE04LW1C220M	ELECTRO 22UF 16WV		
		*	J21-5022-04	MOUNTING HARDWARE		
R19 -22			RD14GB2E122J	FL-PROOF RD 1.2K J 1/4W		
R23 ,24			RD14GB2E181J	FL-PROOF RD 180 J 1/4W		
R29 -32			RD14GB2E221J	FL-PROOF RD 220 J 1/4W		
R39 -42			RD14GB2E220J	FL-PROOF RD 22 J 1/4W		
R43 -46			RD14GB2E221J	FL-PROOF RD 220 J 1/4W		
R47 -50			RD14GB2E2R2J	FL-PROOF RD 2.2 J 1/4W		
R51			RD14GB2E220J	FL-PROOF RD 22 J 1/4W		
R52			RD14GB2E100J	FL-PROOF RD 10 J 1/4W		
R61			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
R64			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
VR1 ,2			R12-1070-05	TRIMMING POT.(1K) BIAS ADJ		
D1 ,2			HZS5.1N(B2)	ZENER DIODE		
D1 ,2			RD5.1ES(B2)	ZENER DIODE		
D3 ,4			1SS176	DIODE		
D5 -8			1SS178	DIODE		
D9 ,10			1SS178	DIODE		
IC1			UPC1237HA	IC(POWER AMP)		
Q1 -4			2SC1845(F,E)	TRANSISTOR		
Q5 -8			2SC945(A)(Q,P)	TRANSISTOR		
Q9 -12			2SC1845(F,E)	TRANSISTOR		
Q13 -18			2SA1123(R,S)	TRANSISTOR		
Q19 ,20			2SC2631(R,S)	TRANSISTOR		
Q21 ,22			2SC3944(Q,R)	TRANSISTOR		
Q23 ,24			2SA1535(Q,R)	TRANSISTOR		
Q25 ,26			2SC2631(R,S)	TRANSISTOR		
Q27 -29			2SA992(F,E)	TRANSISTOR		
AUDIO UNIT (X09-2470-14)						
C3 ,4			CC45FSL1H221J	CERAMIC 220PF J		

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C5 ,6			CE04LW0J221M	ELECTRO 220UF 6.3WV		
C7 ,8			CF92FV1H203J	MF 0.020UF J		
C9 ,10			CF92FV1H562J	MF 5600PF J		
C11 ,12			CK45FB1H331K	CERAMIC 330PF K		
C13 ,14			CE04LW1V4R7M	ELECTRO 4.7UF 35WV		
C15 -34			CK45FB1H471K	CERAMIC 470PF K		
C35 ,36			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C37 ,38			CE04LW1V4R7M	ELECTRO 4.7UF 35WV		
C39 ,40			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C41 -44			CK45FB1H471K	CERAMIC 470PF K		
C45 ,46			CF92FV1H822J	MF 8200PF J		
C47 ,48			CF92FV1H152J	MF 1500PF J		
C49 ,50			CF92FV1H183J	MF 0.018UF J		
C51 ,52			CF92FV1H272J	MF 2700PF J		
C53 ,54			CF92FV1H563J	MF 0.056UF J		
C55 ,56			CF92FV1H822J	MF 8200PF J		
C57 ,58			CF92FV1H124J	MF 0.12UF J		
C59 ,60			CF92FV1H183J	MF 0.018UF J		
C61 ,62		*	CE04LW1HR33M	ELECTRO 0.33UF 50WV		
C63 ,64			CF92FV1H473J	MF 0.047UF J		
C65 ,66			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C67 ,68			CF92FV1H124J	MF 0.12UF J		
C69 ,70			CE04LW1H2R2M	ELECTRO 2.2UF 50WV		
C71 -75			CE04LW1V4R7M	ELECTRO 4.7UF 35WV		
C76			CE04LW1V100M	ELECTRO 10UF 35WV		
C77 ,78			CF92FV1H104J	MF 0.10UF J		
C79 ,80			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C81 ,82			CF92FV1H153J	MF 0.015UF J		
C83 ,84			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C85 ,86			CF92FV1H224J	MF 0.22UF J		
C87 ,88			CC45FSL1H101J	CERAMIC 100PF J		
C89 ,90			CF92FV1H473J	MF 0.047UF J		
C91 ,92			C90-1332-05	NP-ELEC 10UF 25WV		
C93 ,94			CC45FSL1H050C	CERAMIC 5.0PF C		
C95 -98			CF92FV1H104J	MF 0.10UF J		
C100			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C101-110			CK45FF1H103Z	CERAMIC 0.010UF Z		
C111			CE04LW1C221M	ELECTRO 220UF 16WV		
C112-114			CK45FF1H103Z	CERAMIC 0.010UF Z		
C115			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C116-118			CK45FF1H103Z	CERAMIC 0.010UF Z		
C119			CE04LW1H470M	ELECTRO 47UF 50WV		
C120			CE04LW1A470M	ELECTRO 47UF 10WV		
C121		*	CE04LW1V102M	ELECTRO 1000UF 35WV		
C122-125			CE04LW1C470M	ELECTRO 47UF 16WV		
C126			CE04LW1A470M	ELECTRO 47UF 10WV		
C127			CE04LW1V100M	ELECTRO 10UF 35WV		
C128			CK45FB1H102K	CERAMIC 1000PF K		
C129			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C132		*	CE04LW1J101M	ELECTRO 100UF 63WV		
C133,134			CK45FF1H223Z	CERAMIC 0.022UF Z		
C135			CK45FB1H102K	CERAMIC 1000PF K		
C140			CF92FV1H104J	MF 0.10UF J		
E1	3D		E13-0235-05	PHONO JACK (2P) RHONO		

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E2	3D		E13-0446-05	PHONO JACK (4P) CD/AUX,TAPE1		
E3 ,4	3D		E13-0819-05	PHONO JACK (8P) TAPE,VIDEO		
E5	2D		E11-0165-05	MINIATURE PHONE JACK(SYS CONT)		
H	1C,2C		N09-0333-05	TAPPING SCREW (3X12)		
CP1 ,2			R90-0187-05	MULTI-COMP 0.22X2 K 5W		
R112			RD14GB2E220J	FL-PROOF RD 22 J 1/4W		
R157,158			RS14KB3D4R7J	FL-PROOF RS 4.7 J 2W		
R161			RD14GB2E221J	FL-PROOF RD 220 J 1/4W		
R172			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
R184			RS14KB3D151J	FL-PROOF RS 150 J 2W		
R185			RS14KB3D221J	FL-PROOF RS 220 J 2W		
K1			S51-2078-05	MAGNETIC RELAY		
D1 -52			1SS133	DIODE		
D1 -52			1SS176	DIODE		
D53			HZS5.1N(B2)	ZENER DIODE		
D53			RD5.1ES(B2)	ZENER DIODE		
D54			HZS3.3N(B2)	ZENER DIODE		
D54			RD3.3ES(B2)	ZENER DIODE		
D55 ,56			RD18ES(B)	ZENER DIODE		
D57			HZS6.2N(B2)	ZENER DIODE		
D57			RD6.2ES(B2)	ZENER DIODE		
D58			1SS133	DIODE		
D58			1SS176	DIODE		
D59 ,60			HZS6.8N(B2)	ZENER DIODE		
D59 ,60			RD6.8ES(B2)	ZENER DIODE		
D61			HZS5.1N(B2)	ZENER DIODE		
D61			RD5.1ES(B2)	ZENER DIODE		
D62 ,63			1SS131	DIODE		
D62 ,63			1SS178	DIODE		
D64 ,65			HZS6.2N(B2)	ZENER DIODE		
D64 ,65			RD6.2ES(B2)	ZENER DIODE		
D66 -68			1SS131	DIODE		
D66 -68			1SS178	DIODE		
D69			RD4.7ES(B)	ZENER DIODE		
D70			HZS5.1N(B2)	ZENER DIODE		
D70			RD5.1ES(B2)	ZENER DIODE		
D71			HZS6.2N(B2)	ZENER DIODE		
D71			RD6.2ES(B2)	ZENER DIODE		
D76 ,77			1SS133	DIODE		
D76 ,77			1SS176	DIODE		
IC1			M5218P-A	IC(OP AMP X2)		
IC1			NJM4558D-A	IC(OP AMP X2)		
IC2			TC9164N	IC(16CH BILATERAL SELECTOR SW)		
IC3			TC9163N	IC(BILATERAL SWITCH X16)		
IC4		*	TC9162N	IC(ANALOG SWITCH ARRAY)		
IC5			M5218P-A	IC(OP AMP X2)		
IC5			NJM4558D-A	IC(OP AMP X2)		
IC6			LC7522	IC(7CH GRAPHIC EQUALIZER)		
IC7 ,8			M5229P	IC(7CH GRAPHIC EQUALIZER)		
IC9			M5218P-A	IC(OP AMP X2)		
IC9			NJM4558D-A	IC(OP AMP X2)		
IC10,11			CXD1120P-1	IC(ELECTRONIC VOLUME)		

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IC12			UPC78M15H	IC(VOLTAGE REGULATOR/ +15V)		
Q3 -6			2SK163(L,M)	FET		
Q9 ,10			2SC2878	TRANSISTOR		
Q11			2SA733(A)(Q,P)	TRANSISTOR		
Q13 ,14			2SC945(A)(Q,P)	TRANSISTOR		
Q15 ,16			2SC1845(F,E)	TRANSISTOR		
Q17 ,18			2SC2878	TRANSISTOR		
Q19			2SC945(A)(Q,P)	TRANSISTOR		
Q20			2SA733(A)(Q,P)	TRANSISTOR		
Q21 ,22			2SC1845(F,E)	TRANSISTOR		
Q23 ,24			2SC2878	TRANSISTOR		
Q25 ,26			2SB941(Q,P)	TRANSISTOR		
Q27		*	2SD1929	TRANSISTOR		
Q28			2SA733(A)(Q,P)	TRANSISTOR		
Q29			2SA992(F,E)	TRANSISTOR		
Q30			2SD1266(Q,P)	TRANSISTOR		
Q31 ,32			2SA733(A)(Q,P)	TRANSISTOR		
Q33 ,34			2SD1266(Q,P)	TRANSISTOR		
Q35			2SA992(F,E)	TRANSISTOR		
Q36			2SC2003(L,K)	TRANSISTOR		
Q37 ,38			2SC3419(Y)	TRANSISTOR		
Q39 ,40			2SD1718*5	TRANSISTOR		
Q41 ,42			2SB1163*5	TRANSISTOR		
DISPLAY UNIT (X14-213X-XX) 0-13 : K, P 0-84 : U, UE						
D8	3B		B30-0431-05	LED(LN21CPH) POWER STAND BY		
C1			C91-0769-05	CERAMIC 0.01UF M		
C2 -4			C91-0745-05	CERAMIC 100PF K		
C5			CE04CW1A101M	ELECTRO 100UF 10WV		
C7		*	CE04CW1V220M	ELECTRO 22UF 35WV		
C8			CE04CW1A101M	ELECTRO 100UF 10WV		
C9			C91-0759-05	CERAMIC 0.0015UF M		
C10 ,11			C91-0745-05	CERAMIC 100PF K		
C12			CE04JW0J100M	ELECTRO 10UF 6.3WV		
C13			CE04CW1A101M	ELECTRO 100UF 10WV		
C14 ,15			CE04JW1C4R7M	ELECTRO 4.7UF 16WV		
C16			CE04JW0J100M	ELECTRO 10UF 6.3WV		
C17			CF92FV1H104J	MF 0.10UF J		
C21			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C23			CE04LW1V4R7M	ELECTRO 4.7UF 35WV		
C24 -30			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C31 ,32			CF92FV1H104J	MF 0.10UF J		
C33 ,34			CF92FV1H682J	MF 6800PF J		
C35 ,36			CF92FV1H153J	MF 0.015UF J		
C37			CC45FSL1H271J	CERAMIC 270PF J		
C38 ,39			CK45FB1H471K	CERAMIC 470PF K		
C40 ,41			CF92FV1H102J	MF 1000PF J		
C42 ,43			CF92FV1H272J	MF 2700PF J		
C44 ,45			CF92FV1H473J	MF 0.047UF J		
C51 ,52			CE04LW1C470M	ELECTRO 47UF 16WV		
C53		*	CE04LW0J471M	ELECTRO 470UF 6.3WV		
C54			CE04LW1V100M	ELECTRO 10UF 35WV		
C55		*	CE04LW0J471M	ELECTRO 470UF 6.3WV		
C56 ,57			CE04LW1V100M	ELECTRO 10UF 35WV		
C58		*	CE04LW0J471M	ELECTRO 470UF 6.3WV		

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C61			CF92FV1H104J	MF 0.10UF J		
C62			CF92FV1H333J	MF 0.033UF J		
C63			CE04LW1C470M	ELECTRO 47UF 16WV	UUE	
C64			CE04LW0J222M	ELECTRO 2200UF 6.3WV		
C65			C90-1416-05	ELECTRO 18UF 5.5WV		
C66			CE04LW1H010M	ELECTRO 1.0UF 50WV		
E1 -3	1D	*	E13-0291-05	PHONO JACK(MONITOR OUT,VIDEO)		
L1			L40-1021-14	SMALL FIXED INDUCTOR(1.0MH,K)		
X1			L78-0209-05	RESONATOR (4.194MHZ)		
X1			L78-0218-05	RESONATOR		
CP1 ,2			R90-0461-05	MULTI-COMP 47KX6 J 1/6W		
CP3			R90-0227-05	MULTI-COMP 4.7KX6 J 1/6W		
CP4			R90-0453-05	MULTI-COMP 4.7K J 1/6W		
CP5		*	R90-0483-05	MULTI-COMP 100KX13 J 1/6W		
CP6			R90-0465-05	MULTI-COMP 100K13 J 1/6W		
CP7			R90-0278-05	MULTI-COMP 100KX7 J 1/6W		
CP8 ,9		*	R90-0482-05	MULTI-COMP 100KX4 J 1/6W		
CP10		*	R90-0484-05	MULTI-COMP 4.7KX12 J 1/6W		
CP11		*	R90-0482-05	MULTI-COMP 100KX4 J 1/6W		
R105			RS14KB3A271J	FL-PROOF RS 270 J 1W		
R169			RD14GB2E150J	FL-PROOF RD 15 J 1/4W	UUE	
VR1			R12-1070-05	TRIMMING POT.(1K) SPECTRUM		
S1	1A,2B		S40-1064-05	PUSH SWITCH (POWER,VOL,ETC)		
S2			S40-1064-05	PUSH SWITCH		
S3 -29			S40-1064-05	PUSH SWITCH		
S31 ,32			S40-1064-05	PUSH SWITCH		
S34 -53			S40-1064-05	PUSH SWITCH		
S54			S40-1064-05	PUSH SWITCH		
S55 -61			S40-1064-05	PUSH SWITCH		
S62 -68			S40-1064-05	PUSH SWITCH		
S69 -80			S40-1064-05	PUSH SWITCH		
D1 -7			1SS133	DIODE		
D1 -7			1SS176	DIODE		
D9 -12			1SS133	DIODE		
D9 -12			1SS176	DIODE		
D15			1SS133	DIODE		
D15			1SS176	DIODE		
D17 -37			1SS133	DIODE		
D17 -37			1SS176	DIODE		
D38 -47			1SS131	DIODE		
D38 ,39			1SS131	DIODE		
D39			1SS178	DIODE		
D41 -47			1SS131	DIODE		
D41 -47			1SS178	DIODE		
D48 -54			1SS133	DIODE		
D48 -54			1SS176	DIODE		
D61			HZS6.8N(B2)	ZENER DIODE		
D61			RD6.8ES(B2)	ZENER DIODE		
D62			1SS133	DIODE		
D62			1SS176	DIODE		
D65 -72			1SS133	DIODE		
D65 -72			1SS176	DIODE		

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D73			HZS6.2N(B2)	ZENER DIODE		
D73			RD6.2ES(B2)	ZENER DIODE		
D81 -98			1SS133	DIODE		
D81 -98			1SS176	DIODE		
D99			HZS5.6N(B2)	ZENER DIODE		
D99			RD5.6ES(B2)	ZENER DIODE		
D100			HZS2.7N(B2)	ZENER DIODE		
D100			RD2.7ES(B2)	ZENER DIODE		
D111-118			1SS133	DIODE		
D111-118			1SS176	DIODE		
FL1	2A	*	FIP20AMW30	FLUORESCENT INDICATOR TUBE		
IC1		*	UPD75108CW-041	IC(MICROPROCESSOR)		
IC2 -5			UPA80C	IC(7CH TRANSISTOR ARRAY)		
IC6		*	UPD6300C	IC(FL LATCH DRIVER)		
IC7			LC7565	IC(GRAPHIC EQ FL DISPLAY DR)		
IC8 ,9			LB1294	IC(6CH DARLINGTON DRIVER)		
IC10,11			UPD4001BC	IC(NOR X6)		
IC12,13			UPD4066BC	IC(BILATERAL SWITCH X4)		
IC14-17			AN6556	IC(OP AMP X2)		
Q1 -4			DTA143EFF	DIGITAL TRANSISTOR		
Q7			2SC945(A)(Q,P)	TRANSISTOR		
Q8 -10			2SA999(E,F)	TRANSISTOR		
Q11			2SC1845(F,E)	TRANSISTOR		
Q12			2SC945(A)(Q,P)	TRANSISTOR		
Q13			2SC2003(L,K)	TRANSISTOR	KP	
Q13			2SD1266	TRANSISTOR	UUE	
Q14			2SC945(A)(Q,P)	TRANSISTOR		
E4	3B		W02-0692-05	ELECTRIC CIRCUIT MODULE		
FM FRONT-END ASS'Y (W02-0699-05)						
D1 -3			1SV110	DIODE		
TR1			2SK439	TRANSISTOR		
TR2 ,3			2SC3391	TRANSISTOR		
TR4			2SC3494	TRANSISTOR		

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SPECIFICATIONS

AUDIO SECTION

Power Output

(Front)

100 watts per channel minimum RMS, both channel driven at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.008% total harmonic distortion

(Rear)

10 watts per channel minimum RMS, both channel driven at 8 ohms from 70 Hz to 10 kHz with no more than 0.9 % total harmonic distortion

(Front)

110 watts per channel minimum RMS, both channel driven into 8 ohms at 1kHz with no more than 0.008 % total harmonic distortion

Total Harmonic Distortion	
(1 kHz, 8 ohms)	0.002 % at 100W
Intermodulation Distortion	0.008 % at 100 W
Input Sensitivity/Impedance	
PHONO (MM)	3.0 mV/47 kohms
CD/AUX, TAPE	200 mV/47 kohms
VIDEO	250 mV/47 kohms
Frequency Response	
TAPE, CD/AUX, VIDEO	10Hz – 100,000 Hz... +0 dB, −3 dB
Signal to Noise Ratio	
PHONO (MM)	82 dB
CD/AUX, TAPE	100dB
VIDEO	90 dB
Graphic Equalizer	
Center Frequency	60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15kHz
Control Range	±12 dB

VIDEO SECTION

Inputs/Outputs VIDEO 1,2,3	1 Vp-p, 75 ohms unbalanced

FM TUNER SECTION

Tuning Frequency Range	87.5 MHz – 108 MHz
Antenna Impedance	75 ohms unbalanced
Usable Sensitivity	10.8 dBf (0.95 μV)
50 dB Quieting Sensitivity	
MONO	14.2 dBf (1.4 μV)
STEREO	37.2 dBf (20 μV)
Signal to Noise Ratio at 65 dBf	
MONO	80 dB
STEREO	74 dB
Total Harmonic Distortion at 1,000 Hz	
MONO	0.07 %
STEREO	0.1 %
Frequency Response	30 Hz – 15,000 Hz +0.5 dB, −2 dB
Stereo Separation	50 dB at 1,000 Hz
Selectivity	55 dB at 400 kHz
Capture Ratio	1.0 dB
Image Rejection Ratio	43 dB
IF Rejection Ratio	86 dB
Spurious Rejection Ratio	83 dB
AM Suppression Ratio	62 dB

AM TUNER SECTION

Tuning Frequency Range	
530 kHz – 1,610 kHz	
(with the AM tuning interval set at 10 kHz)	
531 kHz – 1,602 kHz	
(with the AM tuning interval set at 9 kHz)	
Usable Sensitivity	10 μV (400 μV/m)
Signal to Noise Ratio	50 dB
Total Harmonic Distortion	0.3 %
Selectivity	25 dB

GENERAL

Power Consumption	4 A... USA Model 300 W... Others
Dimensions	420(W) × 133(H) × 369(D) mm (16-9/16" × 5-1/4" × 14-1/2")
Weight (Net)	10.5 kg (23.1 lb)

Note:

We follow a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Note :

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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